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The Chicago Medical Journal and Examiner

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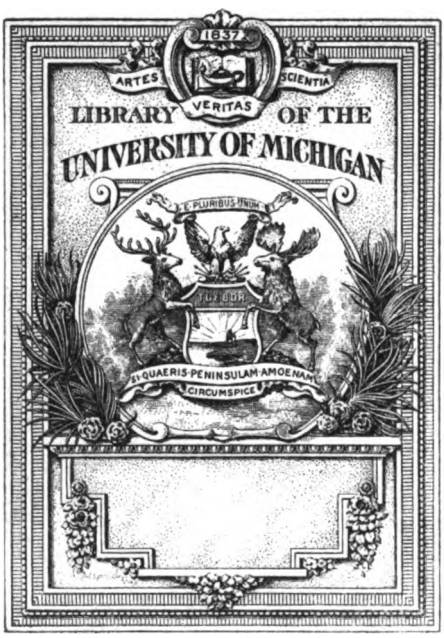

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CONTRIBUTORS TO VOLUME LVI.

Bogue, R. G.	Carter, J. M. G.
Fenger, Christian.	Frothingham, H. H.
Holmes, Bayard.	Holmboe, A.
Jackson, A. Reeves.	Koller, Carl.
Moyer, H. N.	Murphy, J. B.
Reynolds, H. J.	Richey, S. O.
Robison, J. A.	Swartz, T. B.
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The Medical Journal and Examiner.

VOLUME LVI JANUARY, 1888. NUMBER 1.

A NEW METHOD OF TREATING THE VEGETABLE PARASITIC DISEASES OF THE SKIN.

BY H. G. REYNOLDS, M. D.,

PROFESSOR OF DERMATOLOGY IN THE COLLEGE OF PHYSICIANS AND SURGEONS.

[Read before the Section of Dermatology, Ninth International Medical Congress, Washington.]

In this paper I propose to consider the treatment of what are commonly known among dermatologists as the vegetable parasitic diseases, viz., tinea favosa, tinea versicolor, and the three forms of tinea trichophytina. As the form of tinea trichophytina known as tinea circinata, or ordinary ringworm, and tinea versicolor are very superficial, they are very readily cured by any of the ordinary methods. The method I am about to describe will be more applicable to those wherein the deeper structures, as the hair follicles, etc., are involved viz., favus (ringworm of the scalp), and barber's itch.

In these latter diseases many different methods of treatment have been suggested and tried from time to time, but they are usually very unyielding to treatment, and particularly so unless all the diseased hairs be systematically removed. For this reason I feel warranted in assuming that a suggestion regarding a method which to me bids fair to be preferable to any other, and which has never before, to my knowledge, been referred to, will be tolerated, as also a brief report of the few cases which I have treated in this manner.

The great object in all methods is to apply the parasiticide in such manner as to insure its contact with the bottom of the hair follicles and the hair structure itself beneath the surface of the skin. Theoretically, and I think practically, likewise, the method I am about to describe, accomplishes this purpose.

There is a long-recognized law in Electro-Physics, in accordance with which fluids in a galvanic current move from the positive to the negative pole. It was demonstrated years ago, and repeatedly that the absorption of medicinal substances may be induced by applying this principle, viz., by applying the substance to be absorbed on the positive electrode, placing it on the skin, and completing the circuit ega-

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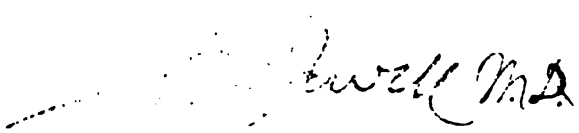

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tive electrode on some other part of the body. This is, perhaps, best substantiated by the fact that a solution of cocaine applied to the surface of the sound integument in this manner, will, in a very few minutes, so permeate the skin as to produce complete local anæsthesia of all the cutaneous and subcutaneous structures covered by the positive electrode. On this subject I read a paper at the last meeting of the American Medical Association (Journal of American Medical Association, August 20, 1887). It was, in fact, in making these local anæsthesia experiments by this method, that the thought first occurred to me that the same principle might be used to advantage in the treatment of these very stubborn and annoying maladies.

The means employed in the method which I am about to describe to induce the penetration of the parasiticide are the galvanic current; though by this method it is possible also that the electricity itself has a salutary effect upon the diseased condition, or, in other words, has a destructive influence upon the fungus giving rise to the disease. With these prefatory remarks, I shall now proceed to describe the method as I have employed it.

Battery, Strength of Current, etc.—Though not an expert electrician myself, I believe it is an established fact that a large number of small cells gives more electrolytic action than the same area of large cells; I have, therefore, used a battery constructed on this principle—the same instrument, in fact, which I use for the removal of superfluous hairs by electrolysis — known as the McIntosh battery. For reasons not necessary to discuss at present, the Faradic current will not answer, neither will the negative pole of the galvanic. The strength of the current must vary with the sensitiveness of the part, the size of the electrode, etc. It is always best to use the strongest current that can be borne without discomfort to the patient, which, with the battery I use, when in good order, varies from five to ten cells. No universal rule can be laid down, the safest guide being the feelings of the patient and the experience and discretion of the physician. For instance, to state a given number of cells would be inaccurate, inasmuch as the strength of the cell always varies with the freshness of the battery fluid, the length of time the plates have been in use, etc. To specify it as so many milliamperes would be unscientific, without giving the size of the electrode or stating the amount of the resistance. When there is much irritation or hyperæmia a very strong current will not be tolerated. It is not necessary that it should, as there is then less resistance. The sponge on the electrode used for the parasiticide solution should be of the finest and softest quality.

Mode of Application.—The surface to be treated should first be thoroughly cleansed of crusts, scales and sebaceous matter, by the usual process of oiling and washing with soap and hot water, etc. If thought necessary, of course, the loose hairs may be removed, though in the cases I have treated this was not done. I saturate the sponge of the positive electrode with whatever parasiticide lotion is preferred, which may be aqueous, alcoholic or ethereal, and place it directly upon the part to be treated. I then place the negative electrode, well saturated with water, on some point near by. A more remote point, as the hand, for instance, will answer, but it will take longer time to get the same effect than when placed near by. The electrodes should be kept firmly pressed to the skin, the positive being occasionally moistened, as required, with more of the solution and the negative with more water. In order to get a sufficient effect, the electrode should remain on each place several minutes before applying it to another place on the scalp. I think it is not wise to continue the treatment over ten or fifteen minutes in all at each sitting, and perhaps not oftener than once a day. The parasiticide used in the cases I treated was a one per centum solution of bichloride of mercury.

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I had hoped to be able to report a considerable number of cases, but I have, as yet, only been able to treat three patients by this method—one of favus and two of tinea tonsurans.

CASE I. John A., æt. seventeen years, otherwise in fair health, was first seen January 12, 1887. He had had eruption on his scalp for ten years, during which time he had been treated by numerous physicians without receiving any permanent benefit. I ordered all local treatment and washing of the scalp to be suspended for two weeks. January 26, examination revealed a patch midway between vertex and forehead, about two inches in diameter, covered more or less with the characteristic yellow sulphur-colored crusts, showing in many places distinctly the cup-shaped character. The hairs were dry, brittle, broken off and loose, and a considerable amount of hair had been lost. There were also two or three other small patches similar in character. Examination with the microscope showed the crusts to be composed of the characteristic spores and mycilia.

The part was thoroughly cleansed and the treatment begun as described and continued daily. In addition, an ointment of one part of citrine ointment to four of lard was applied every night, and in the following morning the scalp was thoroughly cleansed preparatory to the electrical treatment. This treatment was carried out daily until February 1. The patient was not again seen until the latter part of May, when he was found to be entirely free from the disease.

CASE II. Mary L., æt. ten years, applied for treatment February 21, 1887. She had scaly patches on her scalp for four years—one patch in the region of the parietal eminence of right side about two inches in diameter, and two other smaller patches. The hairs were broken off, etc. The microscope revealed the trichophyton in and around the hairs. Treatment was the same as in Case I, except that no ointment was applied, and was continued almost daily for three weeks. June 12, the patient has had no treatment since March 14 and has been well ever since.

CASE III. Susan L., æt. twelve years, sister to Case II., applied for treatment at the same time. She had had a disease similar to her sister's, though not to quite the same extent, for two years and a half. Diagnosis was also verified with the microscope. Treatment was commenced at same time as her sister, and continued in the same manner for the same length of time. The result was complete recovery.

Although I have been unable, from the very limited number of cases treated, to determine to my entire satisfaction the full merits of the method, or the comparative merits of this and other methods, I am, nevertheless, satisfied that I accomplished results in these cases that I could not have attained by any other line of treatment such as I was before accustomed to try, and I therefore feel warranted in recommending its adoption by those in dermatological practice, and I feel convinced that, with further experience, more extended observation and more general adoption of the method, it will be found superior to all others that have been tried.

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TWO CASES OF ABDOMINAL SURGERY.

BY R. G. ROGUE, M. D.,

EMERITUS PROFESSOR OF SURGERY, WOMAN'S MEDICAL COLLEGE.

The patient, an unusually intelligent, unmarried woman, twenty-nine years of age, had suffered for five years almost constant distress, referred to the region of the ovaries. For a few days preceding and following the menstrual periods, the pain was severe; during the period of the menstrual hæmorrhage it was very severe, and during the five years mentioned, the patient was at no time entirely free from pain in the region of the ovaries. During the last four of these years she was confined to her room and bed. During all this time there was never any evidence of inflammation of the pelvic organs, and the ovaries were not appreciably enlarged. The following abridged account of her condition immediately prior to the operation is from a letter from her physician:

"She suffers almost constant nausea and dizziness and pain in the ovaries, which keep her nervous system in a highly disturbed condition. She seems to suffer a little more at each menstrual period than at the one preceding. Every measure for relief in such cases, known to me, has been tried and almost without effect. Any kind of an anodyne, even the local application of cocaine, intensifies the nausea to such a degree as to reduce her to the verge of starvation. She is, however, not hysterical, and there is no evidence of organic disease of the ovaries."

An exploratory incision two inches long was made in the median line of the abdomen at the junction of the lower and middle thirds of the distance from the umbilicus to the pubes.

The fallopian tubes and broad ligaments were intensely hyperæmic, but free from any inflammatory infiltration.

The surface of the ovaries was studded with small cysts, none of any considerable size, many being imbedded in the cortex of the organs.

The ovaries and two-thirds of each fallopian tube were removed. The broad ligament was transfixed by a needle armed with a double silk ligature, carbolized and waxed and the lateral halves tied separately in the usual manner. The abdominal wound was closed with six stitches of carbolized and waxed silk, and dressed with carbolized gauze.

With the exception of persistent nausea, the patient recovered from the anæsthetic and the operation promptly. Because of the inability of the stomach to retain food, nutrient enemata were given for a long time. She complained of pain in the pelvis, much as before the operation. The operation was followed by a severe and protracted attack of pelvic peritonitis and cellulitis, and an abscess finally, which pointed in the right iliac region. This, at first, seemed to be in connection with the stump of the broad ligament, but it closed so promptly after evacuation that it may have been only in the abdominal wall. She made a tedious recovery, and for a long time complained of tenderness on pressure over the pelvis, and the stomach continued very sensitive. There occurred quite an increase in pain and nervousness for a few days each time when the menstrual period would have occurred. When last seen she was much improved, and had commenced to gain in flesh.

II. NEPHRECTOMY, in a case of pyonephrosis from a calculus in the pelvis of the kidney.

The patient, Mrs. M——, 32 years of age, married, and the mother of six children, in the fifth week after her last confine-

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ment, lifted and carried a heavy burden. This action was shortly followed by a feeling of stiffness and soreness in the right side.

Two months later she noticed a swelling in the right lumbar region, and during the following nine weeks was very ill. At this time, seventeen weeks after lifting the heavy weight, she was seen by Dr. Mary H. Thompson, of the Chicago Hospital for Women and Children, who found and opened a large abscess in the right lumbar region. This abscess cavity was freely washed out, and a drainage tube introduced. After this the discharge rapidly diminished to about one ounce of inodorous pus daily and the patient gained in flesh. This was her condition nine months after the original traumatism. About this time, through taking cold and domestic trouble, she suffered a relapse, and was brought to the hospital mentioned above, in September, eleven months after the original attack. When admitted she could not stand erect, suffered very severe pain in the right lumbar region, had no appetite, and was sleepless. The sinus was enlarged, the former treatment was repeated, and she improved for a time.

On October 6, pus was first found in the urine, and it steadily increased in quantity. There was great soreness in the right leg, which finally she was unable to extend. The inguinal glands became much swollen and very tender. During the first week in November her suffering was extreme. The highest temperature observed was 101.6° Fahr.

On November 11, about thirteen months after the first symptoms of the trouble were observed, the patient was anæsthetized, and the kidney removed. The incision was made midway between the crest of the ilium and the twelfth rib, parallel with the latter. The kidney was about double the size of a man's fist, and reached almost to the brim of the pelvis and to the umbilicus. The operation was tedious and protracted, because of the difficulty experienced in including the attachment in a ligature. This was caused majnly by the large size of the calculus in the pelvis of the organ, which prevented securing of the part with the forceps. Finally, a heavy ligature of carbolized and waxed silk was placed around the pedicle and securely tied. The kidney was then removed by dividing it into two portions, and each of them taken out separately. All bleeding vessels were secured by ligatures or by hæmostatic forceps. The cavity was cleansed with a two per centum carbolized solution, and a dressing of carbolized gauze applied. The calculus weighed 315 grains, and measured four inches in circumference in its longest diameter, and three and one-quarter inches in its shortest diameter.

The patient rallied fairly for a short time, and then sank and died two hours after the operation, from shock incident to the prolonged operation and loss of blood.

I am satisfied that in these cases, especially when the kidney is large, the best plan would be to freely open the kidney, preferably by means of the galvano- or thermo-cautery, thus avoiding hæmorrhage, since even a thin sac bleeds freely upon incision or laceration. The sac should then be allowed to drain freely and to shrink in size, until it can at some subsequent time be removed with less difficulty.

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EDITORIAL.

MEDICAL INVESTIGATION AND ITS PRACTICAL RESULTS.

Among the many important papers presented at the *Ninth International Medical Congress*, held in Washington, that of Professor N. Senn, of Milwaukee, on *Experimental Intestinal Surgery, with reference to the treatment of intestinal obstruction*, probably excited as much interest, and elicted as much favorable comment, as any paper read during the congress. By the results of the work done, in his accustomed pains-taking manner of investigating, Professor Senn, has not only contributed to the advancement of scientific surgery, but has again given evidence of the inaccuracy of the charge that has been made, that Americans make but little original investigation, and are content with utilizing or modifying the results of the labor of other investigators. It is not unnatural that, in in the past, more such study and investigating should have been done in the older countries of Europe, where governments have furnished laboratories and encouraged and aided the investigators, than in America, where, at least until very recently, such work had to be done mainly by individual energy and enterprise; by men who were at the same time engaged in active practice and personally earning the means with which to pursue such investigation. It is much to be desired that the good example set by wealthy citizens of some of the older cities of our country may be followed by others by endowing laboratories and affording greater facilities in connection with medical educational institutions, or otherwise, for the pursuit of scientific research. Among those who are most prone to rail at the alleged unreliability in the practice of medicine are many who could do much by contributions from their abundance to aid in putting the practice of medicine upon a higher plane, if they were as willing to contribute to the means leading to prevention of disease as they are to the support of charitable, or so-called charitable, institutions provided for the care of those who are sick, who are paying the penalty of the violation of the laws of nature—laws violated either by themselves or their progenitors, whether through ignorance of them or through willful disregard of them. Whilst there should be no discouragement offered those who support deserving charitable institutions, maintained for the care of the sick who need and deserve such practical charity, yet it cannot be too often, or too forcibly, impressed upon those thus charitably disposed that there is yet a wider field of usefulness open to them, for all must admit that one serves his fellow man better if he can aid him in avoiding that disease which comes directly or indirectly from violating nature's laws. This can best be done by affording medical men the greatest possible facilities for acquiring full knowledge regarding man in health; the deviations from health, which we are accustomed to designate as disease; the causes and the modes by which disease is produced, and the laws by which nature is governed in her efforts to effect recovery therefrom, that intelligent effort may be made by man to assist nature in her effort. With these data firmly established, the medical man may be regarded as being, first, in the best position to advise his fellow man what to do and what not to do to maintain health, and thus to avoid disease, and in the second place, to aid his recovery from disease which resulted from ignorance or neglect of such knowledge.

In this respect, a wide field is open to the benevolent. So far, in this country, but few of the wealthy, outside of the

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medical profession, have entered it, but it is honorable, philanthropic, useful. It affords great scope for the most practical form of intelligent charity, and the fact should be better and more widely made known to those who have been favored by fortune, and who wish during lifetime to do good for the benefit of the less fortunate of their fellow men, and to see for themselves the carrying out of their plans, and the good results therefrom, instead of leaving bequests which may or may not accomplish the end sought in leaving those bequests. The field is open to the world, but we hope that there are some among those in Chicago whom Fortune has blessed in a marked degree, and who in other respects have shown in various practical ways their pride in their city and its development, who will be as liberal to this city, which has become so great a medical center, as have been some of the residents of the older cities of our country, and the *Journal and Examiner* will be prompt to give the credit due the one who shall be the first in our city to follow the honorable example so generously initiated, recently, in one of our great seaboard cities.

MEDICAL APPOINTMENTS IN PUBLIC HOSPITALS.

The management of public charities by politicians, and especially by the average politician of city or county governing bodies, is always attended with difficulty. Especially is this so in the selection of proper professional attendants. It therefore happens that the medical appointments are often unwise and the composition of the professional staff unstable.

For some years past, in the Cook County Hospital, the appointments have been made without much reference to the qualifications of the men appointed, even for the care of the sick, and apparently with no reference to qualification for giving clinical instruction in an institution particularly well adapted for that purpose, and affording a field of great usefulness.

During the last few months there has been a reorganization of the County Board of Commissioners, and an effort made to bring about a better state of things. The daily papers announce that each Commissioner has nominated one member for the Medical Board for the hospital, and that most of the nominees have been accepted by the Board. Some good men are on the staff. How much, if anything, others have paid for appointments is not known. It seems probable, if not certain, that the value of the hospital as a means of clinical teaching has been very much crippled in the past by the fact that men not qualified to teach have been able to buy positions on the staff. Whether the "Reform Board" has brought about reforms in this respect may well be questioned.

MEDICAL LEGISLATION.

The efforts that, during the last few years, have been made to bring about sanitary reforms, to prevent sickness, have very naturally suggested the desirability of also securing for those who can not or do not escape sickness, a greater degree of knowledge and skill on the part of physicians and surgeons — a higher grade of qualification for the management of disease itself. In several States laws have been in operation for several years; in others tentative efforts are now being made to regulate the practice of medicine. The need of some such regulation is very generally recognized by the non-professional, as well as by the professional, public; in fact, by almost everybody except the quacks. How best to meet this need of society is, however, not quite so evident. Different plans are suggested; in different States diverse laws have been enacted, all, however, seeking to secure better education and good character, while not attempting to say what drugs or methods shall be used, but leaving those who give evidence of a knowledge of the great underlying facts and principles of medicine quite free in the use and application of those facts and principles. In other

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words, not attempting to decide when doctors disagree, but only requiring that all who practice medicine shall be doctors — not in title only, but in fact, learned in the science and skilled in the art of medicine. Absolute uniformity in practice would evidently be impossible, even among the graduates of a single college. Only well-established facts are uniform and permanent; opinions, even though plausible, are various and fluctuating.

How shall a State secure for its inhabitants the best skill? How protect them from imposture and ignorance? Of the three things desirable — 1, natural ability; 2, good education; 3, good character, or honesty in the use of knowledge — it is evident that we can not always secure the first; can not prevent a fool from studying medicine any more than we can keep him out of the schools of law or of theology, and to such an one learning brings but little added strength. To the student who sought to recommend himself to the learned Erasmus by saying *decem annos consumpsi in legendo Cicerone*, the scholar only replied by repeating "*one*," the vocative of the Greek word for ass. No ten years will make of one, naturally deficient, a strong, useful member of the profession, and we can not, however desirable it might be to do so, prevent such from studying; nor can we prevent them from graduating, nor from practicing, nor from getting such recognition as their knowledge may enable them to secure. It is manifestly impossible to select as students those naturally gifted or naturally apt for medical study and practice.

Over the second and third qualifications, however, the public can exercise some control. The methods by which this can be best accomplished are as yet matters of uncertainty. Our most learned men and most careful observers are by no means agreed as to the ways and means. This difference in opinion seems to depend, in part, at least, upon the tendency to look at only one side of the question. Some say: "All doctors ought to be learned, and, therefore, any law which does not secure this is a failure." From this standpoint there is abundant ground for criticism, not only of all existing laws, but, we apprehend, of all that shall be enacted. Is there any way, however, of bettering the qualifications of the profession, even though we do not accomplish all that we desire? Most certainly there is. In some of the States this betterment has already been reached, though much more can probably be done. To do this, however, we must deal with things as we find them, not as we imagine they ought to be.

It is manifestly impossible for the State to say that any one, no matter how ignorant, shall not study medicine. It is impossible for the State to determine the conditions upon which medical schools may admit or matriculate pupils. To attempt to do this is to attempt what is impracticable. The State may have a right, when any one proposes to practice medicine, to inquire into his or her knowledge of medical facts and as to his or her personal character, just as it may into the legal knowledge and character of those proposing to practice law. It is practicable to fix a standard of attainment in some way, or authorize some authority to, in some way, do this. There are two methods or modes of procedure open. One is to carefully investigate the length and breadth of the curriculum and the methods and the thoroughness of the instruction in the different medical schools, and permit to practice in the State only the graduates of such schools as, in their requirements for admission and for their degrees, reach a fair average standard; the diploma of such schools, together with the evidence of good character, being received as *prima-facie* evidence of qualification. This is the course adopted, with a good degree of success, in Illinois. The other method is to require every person proposing to practice medicine to pass an examination before a properly and legally appointed board, and

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to prove himself qualified to enter upon the practice of the profession. This is the case in Minnesota. Of course, there can be no absolute standard of qualification and no uniform standard in different States, but the effort should be made to secure for a community a sufficient number of medical men with the highest possible qualifications.

That there are difficulties in the execution of either one of these methods is very clearly shown by the fact that good, capable men are at variance in their opinions upon the subject. We think, however, (1) that as a matter of justice the conditions upon which men are admitted to practice should be such as can be complied with by graduates of medical colleges of other States and of other countries, as well as those of the State in which the law is in force; (2) there must be some authority, board, or committee, to determine what standard of excellence or knowledge shall be required. This cannot be done by legislative enactment, for the reason that the standard will be variable and regulated by the supply and demand, just like that of any other service, as, for instance, school-teaching or the practice of law. Although the Illinois law has worked well, upon the whole, we are inclined to think that something like the Minnesota law, requiring that every one shall be examined, no matter from what country or State or from what college he or she may come, is the better plan. The college that does the best teaching serves best the State, and will find that a larger percentage of its students will pass the ordeal of the State examination.

Of course no member of any teaching institution should be a member of the examining board. Many minor details must require careful thought, and after all there will be friction and there must be dissatisfaction. We must remember that all efforts in this direction are still tentative, and that though upon high Olympus Minerva came in the fullness of her intellectual vigor, as well as personal beauty, from the brain of Jove, such things seldom happen among mortals.

The possibility of some unifom regulations in the different States has been discussed, and, at the last meeting of the American Medical Association, a committee was appointed, with instructions to prepare a plan or draft a law which might meet the views of those interested in the different States. Whether uniformity of legislation is possible or not, it is, nevertheless, worth while to consider the question in all its bearings. For ourselves, we confess that it does not seem probable that the members of the legislatures of two or more States can be brought to think alike, or so nearly alike as to adopt the same means and in the same language, nor do we think this is a matter of as much consequence as do some of our friends in the profession. It is, however, desirable that, in some way, neighboring States shall be able to require something like uniform qualifications on the part of those who are permitted to practice; otherwise, the more incompetent will gravitate to those States where the standard is lowest. We have seen something like this as a result of the enforcement of the Illinois law. Many hundreds, who could not comply with the law, emigrated to Michigan, Indiana, Missouri, Iowa and Wisconsin. Like wolves and bears, they are now being pressed still further towards the border-land of civilization.

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CHICAGO GYNÆCOLOGICAL SOCIETY TRANSACTIONS.

REGULAR MEETING, SEPTEMBER 24, 1887.

The President, Charles Warrington Earle, M. D., in the Chair.

Professor J. H. Etheridge read the following paper, entitled, *Vaginal Hysterectomy;* report of three cases operated on at the Presbyterian Hospital. He said: "I can never convey an adequate idea of the relief to the operator offered by the method of hemostasis by forcipressure on the broad ligaments, as compared with that of ligatures. I think no one can fully appreciate the untold superiority of the former method over the latter till he has had experience in the performance of that operation under both methods."

CASE I. Mrs. S., æt. 47, mother of nine children. She had otherwise always been well. She presented herself February 1, 1887, with epithelioma of the cervix uteri. It did not involve the vault of the vaginia. The broad ligaments did not seem to be thickened. Mobility of the uterus was complete. After preparatory treatment with a daily laxative and diuretic for one week, the operation was performed on February 8, 1887.

The cervix was easily drawn down to the vulvar orifice, and with scissors its vaginal attachment was divided. Strong adhesions to the bladder and rectum were found, and, in consequence thereof, the rectum was opened in one place and the bladder in two places in the process of freeing the uterus from these two organs. After the two broad ligaments were sufficiently isolated, and the fundus was turned backwards and brought down, the left broad ligament was first penetrated and divided into two sections with broad ligatures, and tied as securely as hands could tie them. It was then severed as close to the corpus uteri as was possible, and the whole organ came out of the vagina. Treating the right broad ligament similarly was a much easier matter, because the uterus was out of the way. This attachment was at once severed, and the whole organ was then from the patient. The ovaries were subsequently removed.

The rent in the bowel was closed by continuous suture without difficulty. The larger rent in the bladder was also closed by continuous suture; but it was done at a great disadvantage, from its peculiar position behind the symphysis pubis and looking directly backwards. To draw down the bladder and to so evert the edges of the rent as to apply the stitches was a delicate and difficult task. The smaller rent, undiscovered at that time, was not closed up. Just as this sewing up was completed, there was observed welling up into the shapeless excavation left after the removal of the uterus great quantities of arterial blood. From which broad ligament it came it was impossible to decide. After a long time the bleeding vessel, which was in the right broad ligament, was secured, but not till after a ligature had been pushed off the left broad ligament. All vessels were eventually secured, but not till a great quantity of blood had been lost.

The top of the vagina was closed from before backwards with a continuous suture, the ligatures were brought down, iodoform-gauze stuffed into the vagina, and the patient put to bed. Reaction followed, but slowly. She died from peritonitis and exhaustion in forty-five hours, having passed eight ounces and one drachm of urine in the meantime.

The autopsy revealed a small rent in the bladder, which it was concluded had been the cause of the peritonitis.

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CASE II. Mrs. C., æt. 36 years, tall, spare, nervous, and of sanguine temperament, presented herself February 10, 1887, with a small epithelioma of the cervix uteri. The upper portion of the vagina cervix was not involved. The choice between amputation of the cervix and hysterectomy was left to the patient.

After full explanation of the danger and results of the two procedures, she decided to have the latter operation, which was performed on February 25, 1887.

The uterus was easily drawn down to the vulvar orifice and freed from its vaginal attachments by the use of scissors. The bladder was uncommonly closely attached to the uterus, and before its complete separation was accomplished, it was opened. The opening into the Douglas cul-de-sac was easily effected, and the fundus turned backward through the sacral hollow, down and out through the vulva. The broad ligaments were secured with silk ligatures, and the uterus removed after its separation from them. The ovaries were separately removed immediately afterwards. In closing the vesical rent, the ligatures slipped the left broad ligament and it bled profusely. The hæmorrhage was soon checked and the vagina was closed from before backwards. The ligatures were brought down into the vagina, and the latter organ was filled with iodoform-gauze. The patient rallied well. The temperature rose to 100° F. on the second and third days. Thereafter nothing worthy of special mention occurred. On the tenth day, an elastic ligature, attached to the patient's left thigh, was tied to those protruding from the vagina, and in five days they began to come away, and in forty-eight hours afterwards the last one was removed. In thirty-six days she left the hospital.

CASE III. Mrs. C., æt. 49, a widow, appeared on April 13, 1887. Her last confinement had been twenty-eight years before. She was still menstruating regularly every three weeks, flowing one week each time.

Six months before, she began to have leucorrhœa and to lose occasional small amounts of blood. She had excellent general health. Her appetite and digestion were good. Her bowels, kidneys, and skin acted naturally. She was well nourished and presented a promising prospect for any surgical ordeal. One thing that one could wish different was a too rapidly acting heart. It beat over ninety times a minute, and the arterial impulse was persistent. She had often seen lateritious deposits in her renal secretion.

Examination revealed an epitheliomatous degeneration of the cervix, with about one-fourth of an inch of uninvaded tissue of the cervix between the cancer and the vaginal vault. The uterus was about four inches deep, and it bled freely upon withdrawal of the sound. The fundus was large, and was easily felt through the abdominal wall. The uterus was freely movable, indicating the non-implication of the lymphatics in the broad ligament. The absence of invasion of the vaginal wall and of the circumuterine tissues led to the recommendation of an operation for removal of the whole uterus.

From April 19 to May 5, the date of the operation, she took cascara daily, and digitalis and kalium acetate. The condition of the excretions seemed to be as nearly perfect as possible preparatory to an operation. She slept in the hospital the night before the operation, and took the customary antiseptic general bath, and had administered several vaginal bichloride douches.

The operation.—The cervix was drawn into the vulva with two large, locked vulsella forceps, while the vaginal attachment to the cervix was divided with scissors. Gradually and patiently the circumcervical tissues and the attachments of the bladder and rectum were crowded away with the finger nail till the Douglas cul-de-sac could be opened. Then it was found quite impossible to reach the top of the fundus with the fingers. The cul-de-sac of peritoneum between the bladder and the uterus

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was then opened, with the hope of being able to retroflex the uterus by means of the fingers placed before and behind it. This manœuvre was found to be an impossibility. After repeated vain attempts to reach the top of the fundus with the fingers that method was abandoned. Trial of very deep supra-pubic pressure to thrust the fundus back towards the sacral hollow, and at the same time to grasp and pull down the fundus with a small vulsella forceps thrust through the Douglas cul-de-sac, at last succeeded in getting the top of the uterus out of the vagina, but only after the forceps had torn loose several times. Snap forceps were then placed on the broad ligaments and the latter divided. The subsequent dressing consisted in tucking a thin layer of iodoform-gauze into the vagina, care being taken to avoid separating the top of the vaginal walls. The danger of this separation must be evident to any observer. Ribollet attributes the death of one of his patients to crowding too much gauze into the upper vagina.

No stitches were used to close the upper end of the vagina. Its borders were permitted to collapse and to close in any position that they chanced to occupy. Fear that the bowels and bladder might seek an outlet through the vaginal tract is wholly groundless. One ligature was used for a vaginal artery. No attention was paid to it in the final dressing.

The ovaries were both removed after the uterus was finally separated from its attachments.

The patient reacted well from the shock of the operation, which consumed seventy-five minutes. Her daily progress was so uniformly satisfactory that any detailed descriptive statement of it would be unnecessary.

The pulse ranged from 90 to 120 beats per minute. It was 98 when she left the hospital. The temperature reached 100°F. for one morning only, and on five evenings, from the third to the seventh days, inclusive.

The amount of urine passed daily during the first fourteen days after the operation is indicated by ounces in the following figures: 19, 19½, 25, 33, 26, 24, 23½, 25, 30, 31½, 34, 40, 35, and 26½.

The forceps, one pair on each broad ligament, were removed at the end of forty-eight hours. Although one knows that forty-eight hours of *closure* of the lumen of an artery will necessarily destroy its patency, yet the writer had some misgiving when the forceps were very carefully unsnapped and carefully removed. No bleeding followed the removal of pressure from the broad ligaments. The vagina was not filled with gauze. Iodoform was daily blown into it as far as was possible.

It was impossible to state definitely the amount of drainage that escaped; perhaps three tablespoonfuls daily, for the first two days, would cover it all; afterwards the amount could not have been more than one tablespoonful on the third and fourth days each.

The following are some points of interest concerning this operation.

Indications for its performance.—(*a*) Ten years ago, and, indeed, until quite recently, the chief indication for the performance of vaginal hysterectomy was malignant disease. At present it is agreed by all operators that the earlier it is performed for cancer the greater are the chances for its non-recurrence. This dreaded malady always returns sooner or later after amputation of the uterine cervix, and of course proves fatal; whereas, when the whole organ is removed, the patient is given the only hope of permanent recovery. Hysterectomy does not always prevent recurrence of the development of this neoplasm, yet it offers the best results. Martin reports eight cases of hysterectomy for cancer, without relapse, varying from two and one half to five years. According to Sänger, the average of survival after this operation is eleven months. Olshausen reports cases, after operation, of relapse, once after eighteen months, twice after two

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years, and twice after three years. Seven patients had survived two years without recurrence, and seven other women had lived over one year without relapse. Recurrence usually takes place in the seventh month after removal of cancer, and sixteen cases of F. would seem from his report to be in a fair way for complete recovery.

The most favorable conditions offered for hysterectomy are the non-involvement of the vagina, and complete mobilization of the uterus, which shows the non-involvement of the *ligamenta lata*. In other words, the earlier in the disease the operation can be performed, the better are the promises of a radical cure. Frequently it occurs that the disease has advanced too far before the gynæcologist is consulted.

(*b*) *Procidentia uteri* is another condition for which this operation is performed. Anaplastic operations do not always restore the organ to its normal level. Artificial vaginal stenosis to the extent of the non-admission of the little finger has failed ultimately to relieve the procidentia through gradual dilatation of the vaginal channel.

(*c*) Fibrous bodies of the uterus which offer the point of departure of serious irregularities, have constituted a cause for vaginal hysterectomy. Of course reference is had to small tumors. Hedenreich* reports four cases of operation with four successes. He considers that at present it is impossible to pronounce upon the relative merits of vaginal hysterectomy and of castration for small fibrous bodies in the uterus. Péan † recently reported a case of the same operation for multiple fibroids.

(*d*) The hystero-neuroses (inveterate dysmenorrhœa, neuralgia, convulsion, etc.), for which oöphorectomy is so often performed, Péan considers a justifiable cause for this surgical procedure. His reasoning is that these neuroses sustain an intimate relation to the uterus itself, consequently the uterus should be included along with the tubes and ovaries. (Caldwell, Paris letter in Chicago *Medical Journal and Examiner*, February, 1887.)

As an illustration of the *furor operativus*, a recent article from the pen of a Cologne surgeon, Dr. Frank, may be mentioned, which was published in the April 3, 1887, number of the *Archiv. für Gynäkologie*, in which are enumerated the following cases of removal of the entire uterus:

For endometritis, four cases; for retroflexion or retroversion with fixation, three cases; pruritus uterinus, one case, and for neuralgia and retension of urine, one case.

Members of the medical profession can scarcely read the account of these cases without being astounded at the amazing temerity of such proceedings.

The various steps of the operation consist in (1) freeing the cervix from its attachments, (2) hemostasis, and (3) the subsequent dressing.

Professor Christian Fenger exhibited specimens of *Carcinoma of the Cervix*.

The first specimen was from a woman about 40 years of age, a multipara. She had symptoms of the affection for over a year, and was in rather an emaciated condition, partly on account of chronic bronchitis and a cystic goitre, and partly on account of the carcinoma, where several local operations had been performed before. It was a cervix carcinoma, with the cervix involved almost to the internal os, the white mass below being the carcinoma tissue, and all of the rest of the cervix being carcinomatous. He was induced to operate in the case by the extreme mobility of the uterus. As a rule, in carcinomas that have gone as far as the specimen exhibited, operation is not advisable; it is too late. However, she was not asked to be operated upon, but she implored him to operate on her at any risk to her life, and he operated. Before the operation her pulse was 120, and she was, as stated be-

* Hedenreich, Albert. "De hysterectomie vaginale," (Semaine Med., Paris, 1886, vi., 69-70).

† Gaz. des Hopitaux, October 12, 1886, pp. 950-951.

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fore, weak, but the uterus was movable and was taken out without any considerable difficulty. Before the end of the operation, which lasted about two hours, she was very weak and almost pulseless. This condition lasted after the operation, and in the evening her pulse was 170 and could scarcely be counted. She did not lose any quantity of blood to speak of. He made a saline infusion of twelve or thirteen ounces in the brachial vein, and afterwards the pulse got stronger, and continued so from that time, and there was no further trouble during her recovery.

The next specimen was a portio carcinoma extending about an inch into the cervix on the posterior lip. It was a portio carcinoma because it had its greatest extent down at the vaginal portion, and became smaller and smaller as it went up in the cervix. In a cervix carcinoma that opens down in the vaginal portion, we should expect to have a larger cavity in the cervix and a smaller opening in the vaginal portion. This patient was 28 years old, and in spite of her being a nullipara the operation was very easy. As in all of the cases, it was necessary to dilate the vagina posteriorly, but otherwise, evidently on account of the small size of the uterus, the operation was easy—so easy that there was no cause for either ante- or retro-version while taking it out; it was just held down, and the ligaments ligated. In this case the operation was so easy that he united the peritoneal as well as the vaginal wound, closed them up together with a row of sutures, commencing in the anterior fornix, going through the anterior peritoneum, the posterior peritoneum, and out of the posterior fornix, thus closing up by one row of sutures the peritoneal and the vaginal wound. In the other case, he closed the peritoneal wound and left the vaginal wound open. The drainage used was iodoform gauze. She made the most undisturbed recovery of all of them; never had a rise of temperature nor of pulse, and never had any pain. The tubes and ovaries were not removed.

The third case was a small portio carcinoma, extending but slightly up in the cervix, and could be seen on the posterior surface of the uterus. She had previously had perimetritis. This uterus was perfectly movable, but the operation was not easy, as the loosening of the bladder from the uterus was difficult, while in the first two cases it was easily detached with the finger. Perhaps on account of the previous perimetritis, the tissue between the bladder and uterus was so dense that it had to be cut with the scissors, and he had made a small opening into the bladder which was united at the time it was cut, and did not leave any bad results, not even a temporary fistula, as no urine passed at any time down into the vagina. Her recovery was uninterrupted.

The fourth specimen was another portio carcinoma on the posterior lip, reaching up in the cervix perhaps half an inch. The patient was a multipara, 28 years old, and quite fleshy. Contrary to expectation, the operation was extremely difficult. The vagina was not unusually narrow, but the difficulty of the operation was due partly to the large size of the uterus, and partly on account of the fact that she was very fleshy. In a very fleshy person there is some little part of the vagina narrowed by the subcutaneous tissue on the inside of the nates. There was in this case the same difficulty as in the previous one about separating the bladder from the uterus, but it did not cause any passage of urine into the vagina. He operated according to the method of Leopold, loosening the lower part of the broad ligaments first, and then going up until there are no firm bands left on the sides of the uterus. When that is done, and the anterior fornix loosened, as a rule the uterus becomes so movable that it comes down an inch or an inch and a half or two inches into the vulva, so that the rest of the operation is comparatively easy. But in this case it did not come down. There was an unyielding condition of the lateral ligaments.

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The reason for it was not known. This condition made the operation difficult and long. At the end of the operation it was thought best not to lose time in uniting the peritoneal or the vaginal wound. He only brought down the ligatures to the border of the vaginal incision, uniting them there and leaving the peritoneal cavity open, using for drainage iodoform-gauze packed up in the peritoneal cavity. This patient did not have an uninterrupted recovery. She had a temperature for a couple of days of about 100.5°F., later on, 100°, later, below a hundred. What was more alarming than the temperature was that the pulse was up in the neighborhood of 120 most of the time. In this case he had to change the gauze packing at the beginning of the rise in temperature, taking it out and introducing a drainage tube so as to be able to wash it out every day. The washing-out, however, was not begun until after the tenth day, because, at least one, perhaps more cases are on record where, when the washing-out was performed early, the fluid had gone up into the peritoneal cavity and caused general infection.

Dr. Merriman: Do you think that if you had sewed up the cavity of the peritoneum you would have saved her much?

Professor Fenger: I must confess that I believe in closing up the peritoneal wound as a matter of safety.

These specimens show one point, namely, that a strict line, as Ruge and Veit have pointed out, between portio carcinomas and cervix carcinomas does not exist. They say that a portio carcinoma very rarely extends up into the cervix. If that is the case, it would, of course, not be justifiable in many cases of simple portio carcinoma to do anything but the partial operation. Fritsch has called attention to a fact which these specimens show very distinctly—that is, the difficulty of finding out if a portio carcinoma is limited to the portio proper, or extends up into the cervix or even into the cavity of the corpus.

I might say a few words in regard to the manner of operating. It is very far from being generally agreed upon which operation is the best, and the variety of procedures is very large. As an illustration, we will take the treatment of the broad ligament and the closing of the vaginal and peritoneal wound. I think there has been an improvement in the technique of operating over the old methods in operating as proposed by Sänger and Fritsch. They begin the operation by the ligaturing step by step of the parametria. When that is done well on both sides, the uterus will become so movable that the remainder of the operation can be done with comparative ease. This ligaturing step by step, together with Martin's method of suturing, does away with one of the dangers of the operation, namely, hæmorrhage. By this step ligaturing, the uterine artery is met half or three-quarters of an inch above the fornix, and can be securely ligated so that the rest of the operation can be done with comparatively little loss of blood. The other danger which we have to encounter is sepsis, as we have to do with a carcinoma whose surface is always decomposed and septic. Besides doing the usual and necessary clean operating, Leopold proposes that we should not antevert or retrovert the uterus, but take it out without any of these procedures. Fritsch advises to leave the posterior fornix closed when we antevert, so that the carcinomatous surface cannot be turned up into the peritoneal cavity and come in contact with the organs there.

As to the treatment of the peritoneal and vaginal wound, there are also a great variety of methods. It seems that for after-treatment packing with iodoform gauze is much more convenient and much less troublesome than a drainage tube, as the iodoform gauze can be left in for a week or more without being removed, and then the after-treatment is over.

Dr. Nelson: I would like to ask Dr. Fenger in regard to the removal of the ovaries and tubes, whether they are likely

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to produce disagreeable results in the after-history of the patient by being retained. I can understand full well the desirability of leaving as many organs and as much tissue as can be left, but would raise the question of the desirability or not of removal of the ovaries and tubes when the uterus has been removed.

Professor Fenger: In answer to that question, I would say that it is remarkable what little trouble has been reported from the cases where the ovaries and tubes have been left. There are a few cases, one of Schroeder's, where the menstrual molimina from the organs left has caused the patient trouble. In another case the ovary, or a piece of it, which had been left, was imbedded in the cicatrix, and caused afterwards, according to the opinion of the operator, periodical pains. Brennecke says that he has come to the conclusion that it does not do any harm to leave the ovaries and tubes in. He says that the ovaries atrophy; that some of his patients have had slight molimina in the first three to six or nine months after the operation, and after that time the symptoms from the ovaries have always entirely ceased. That is all I know about this question. But as we get towards the end of the operation it is hard on the patient and hard on the operator, and I feel like doing as little additional operating as possible, and if I can leave the ovaries and tubes without doing the patient any harm it is preferable to do so, as the operation in many cases is a severe one on account of the liability of the patient to collapse towards the end of the operation, which lasts for an hour and a half to two hours. So until I can do the operation much quicker I should prefer to leave the ovaries and tubes in.

Dr. Merriman: Is there any danger of including the ureter in this operation, of injuring it in any way?

Professor Fenger: Yes; there is danger, inasmuch as it has been done, although very rarely. When the ligaturing of the broad ligaments has been done step by step, so that the uterus can be drawn down, then the ureter stays up, so that the final ligature of the broad ligaments is not likely to include the ureter.

Dr. Merriman: He draws the bladder down with it, the uterus and bladder not being disconnected, and I should think there would be great danger of including the ureter in some of the operations.

Professor Fenger: Even if the ureter is caught with the bladder when the uterus is made movable and drawn down, the ureter stays up.

Dr. Nelson: Is it customary with the majority of operators to curette and to thoroughly disinfect the carcinomatous ulcer before beginning the operation, immediately before, or is it done several days before, or is it done at all?

Professor Fenger: I think it is done several days before by some; for instance, by Hegar and some others. Fritsch and Leopold do it at the beginning of the operation. After the curetting, the surface is disinfected by a strong solution of chloride of zinc or a strong carbolic-acid solution. I prefer to postpone it to the beginning of the operation, so as not to have the patient disturbed with an additional operation, with some loss of blood.

Dr. Merriman: Supposing there was a case of cancer that had gone beyond the cervix into the tissue posterior to the uterus, invading the vagina and extending along down on the anterior side, but there was nothing anterior to the uterus, would it be safe, in a case of that kind, to undertake the operation of extirpation?

Professor Fenger: I think I should refuse. I think the benefit to the patient lies in operating early; and as soon as a portio carcinoma has gone over onto the wall of the vagina to any extent I think the prospects of a radical cure are very small, and that the patient is just as well off with symptomatic treatment, curetting, etc. I think the aim of the operation should be a radical cure, and that extensive operating is being done away with more and more, and only limited cases regarded fit for operation.

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It is generally accepted as a law in the surgery of the mammary gland that no matter how localized a small carcinomatous nodule may be, nothing less than the removal of the entire gland, and I would regard it safe to add, the lymphatics of the axilla, would be the safe operative procedure to adopt. It can thus be understood that authors who believe in a low mortality for the vaginal hysterectomy — Sänger, Leopold, Fritsch — require this operation to be done in all cases of limited carcinomas, even small carcinoma of the vaginal portion, to the exclusion of any of the partial operations.

Fritsch calls attention to the fact that a strict demarkation line between carcinoma of the cervix and of the vaginal portion, as Ruge and Veit in their classical article on uterine carcinomas have described it, does not exist in all cases. Some apparent portio carcinomas may extend deeply up into the cervix. It is often not possible during a partial operation, viz., vaginal amputation of the cervix, to determine if we amputate in healthy tissue.

Consequently, for the majority of such cases, the total extirpation is safer as to the radical cure of the carcinoma than a partial operation.

Dr. H. T. Byford: I had the good fortune to successfully operate upon one case in which the uterus looked something like this larger one Professor Fenger has shown us. It was probably an inch longer. The patient was a fleshy, married lady, about thirty years old. The cervix had been amputated a few months before. I ligated the broad ligaments step by step, as recommended by Leopold. I left the abdominal cavity open, except to draw the ligatured parts together, and then packed the vagina with iodoform-gauze for eight days. By mistake one of the iodoform-tampons was left in nearly two weeks, but it did not cause any serious symptoms. As to leaving the peritoneal cavity open, I think there will never be any fixed rule, for that will probably have to be decided by the case. If the case was one in which there was no such manipulation of the broad ligaments, we would expect some sero-sanguineous exudation, and should not completely close the peritoneal cavity. When we use iodoform-gauze in the proper shape we practically close it up. I do not see the use of sutures. Before there can be any exudation of secretions the peritoneal cavity is closed by exudation. Stitches are only a source of irritation both during and after being inserted. As to leaving the ovaries, it seems to me that in taking out the uterus we take out the larger portion of the sexual nervous system, and produce atrophy of the sexual organs quicker by removing the uterus than by removing the ovaries. It would be almost as superfluous to remove the ovaries after taking out the uterus as to remove the uterus after taking out the ovaries to bring on the menopause. There is one kind of operation that has not been referred to—that is, by leaving compression forceps on the stumps, as is done quite extensively in France and England. When the patient is very weak, it seems to me an improvement to put on these clamps and thus rapidly finish the operation. In regard to the mortality and difficulty of the operation, I think that taking out the uterus is not so very much more serious, though much more difficult, than amputating the cervix. It can not be so safely done so often by the experienced operator, for he is more liable to do something that will endanger the life of his patient. But when the operation is properly performed, the peritoneal cavity being practically closed by the parts being brought together, the patient is left in as good condition for recovery as by a high amputation combined with the cautery.

Dr. J. C. Hoag: I have observed with a good deal of interest an apparent revulsion in feeling and opinion in regard to the advisability of this operation. Only a few months ago, in conversation with a number of operators in England, I found the operation was very generally decried, but since

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that time, from a perusal of the English journals, one gets a different idea of the opinions of British operators. Some of them did not hesitate to say that in those cases which recovered there was no carcinoma.

In regard to the technique of the operation, I can only speak in the light of what experience I have had in operations on the cadaver, under the instruction of a prominent operator. I was instructed to begin the operation by opening the anterior and posterior culs-de-sac. This certainly seems to be an inferior method to the one described by Dr. Fenger, as affording opportunity for infection of the peritoneum. It has one advantage, however, and that is, it enables one to get his bearings better in regard to the relations of the parts, because one can surround the broad ligaments with the finger and find just where to pass the ligatures, and in this way I think the ligatures can be placed in a more accurate manner. The loss of blood is less, and after the removal of the uterus there is no trouble from hæmorrhage, because it is *entirely* prevented by the accurately applied ligatures, whereas in the other methods there is often a considerable loss of blood. In a number of cases which I saw, the operation was practically bloodless.

He related the following history of a case of *placenta prævia*.

He said: I wish to refer to a case which I attended recently in which there was one point of interest; it was a case of placenta prævia which I saw a few days ago in consultation. I was called early in the morning, and on going to the patient found her in labor, the labor being a little premature by perhaps three or four weeks. She had suffered repeatedly from severe loss of blood during the last three months. At the time I saw her the os was sufficiently dilated to admit one finger only; the periphery of the placenta could be felt throughout perhaps a fourth of its extent. She was having no particular hæmorrhage at that time, but had been flowing all night. I endeavored a few hours later to introduce a Barnes dilator, but failed because the cervix was very unfavorably situated, being so far back in the cervix that it was impossible to introduce even a small dilator. I introduced a colpeurynter and left it for three or four hours, by which time the os was found to be pretty well dilated, and the remainder of the management was left to the other physician at his request, as he had not previously attended one of these cases. By external manipulation, palpation and auscultation, I had no difficulty in finding the exact location of the feet; the other physician introduced his hand and with little effort was able to pass it into the uterus; he seized the foot through the membranes, but had great difficulty in holding it. There was a good deal of difficulty in rupturing the membranes. I tried it before the introduction of the colpeurynter, but gave it up and advised the physician to rupture the membranes wherever he could do so. He soon succeeded in doing this, and the case offered no difficulties afterward. There was very little loss of blood. The patient was afterwards given two antiseptic douches per day, and has done very well since. The child is living.

DISCUSSION.

Dr. Merriman: How much hæmorrhage was there after you introduced the colpeurynter?

Dr. Hoag: Very little.

Professor Earle: Did she get an intrauterine douche immediately after the operation?

Dr. Hoag: Yes, immediately; before the colpeurynter was put in and after the delivery of the child, and she has had no temperature above 99° F.

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OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

LONDON, Thursday, Dec. 8, 1887.

J. W. Hulke, F.R.C.S., F.R.S., President, in the Chair.

An Unusual Complication after Subconjunctival Tenotomy of the External Rectus.—Dr. A. Emrys-Jones, Manchester, read this paper, relating to a little girl aged 10, in whom both internal recti were divided for alternating convergent strabismus. Immediately after division of the left rectus there was profuse hæmorrhage into Tenon's capsule, leading to well-marked proptosis. A firm bandage was applied, but two hours later the proptosis was more marked, the pupil was widely dilated, inactive to light, and perception of light very doubtful. The optic disc was very pale. From this time rapid improvement took place, and recovery was eventually complete.

Persistent Hæmorrhage in the Anterior Chamber after Iridectomy for Chronic Glaucoma.—Dr. Emrys-Jones also read this case: The patient was a man aged 63, whose right eye was almost blind, and with + 1 tension; in the left eye, vision $\frac{6}{18}$, and the field of vision much contracted. The optic nerve was cupped. Iridectomy was performed on October 24, 1882. Free hæmorrhage followed, and the next day the anterior chamber was full of blood, and no trace of iris could be detected anywhere. There was scarcely any improvement in a fortnight. One month after operation the hæmorrhage had subsided considerably, and the outline of the pupil could be detected. The improvement was excessively slow, and it was not until December 16th that an ophthalmoscopic examination could be made, when the vitreous was found to be clear and the optic nerve much cupped. There was cardiac disease, and the patient died on January 17, 1883, from double pneumonia. Mr. Haynes Walton had written something about this condition in his book when treating of injuries to the eye from mechanical causes.

The President asked what method of subconjunctival tenotomy had been adopted in the first case; he could not recall any similar occurrence. In the second patient the case was one of persistent hæmorrhage, the blood retaining its color, as was sometimes seen in diabetic patients.

Mr. Adams Frost and Mr. Ernest Clarke had met with cases exactly like the one recorded in the first paper, the latter speaker suggesting that division of the tendon too near its insertion was, perhaps, the cause.

The President pointed out that the object of Von Graefe's operation was to divide the tendon as close to the globe as possible.

Mr. Lawford had seen one case in which severe hæmorrhage had followed tenotomy, leading to proptosis and duskiness of the lips. The patient, a boy, went on well at first, but subsequently had a relapse after a sudden effort.

Mr. Brailey had seen instances of this accident, in one case leading to atrophy of the optic nerve. He had always been inclined to attribute the occurrence to a too free use of the hook rupturing one of the ciliary arteries, and he considered Von Graefe's operation very unlikely to lead to such an accident.

On Congenital and Hereditary Defect of Ocular Movements.—Mr. Lawford read notes of four cases which had been under his care at St. Thomas' Hospital. These cases included a father and three of his seven children, the remaining four being unaffected. The three children who were the subjects of this congenital defect were numbers 2, 4, and 7. In all four patients there were present the following symptoms: Almost complete bilateral ptosis, loss of upward and downward movement of the eyeballs, and very defective lateral move-

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ment. Visual acuteness and accommodative power were good, and there were no ophthalmoscopic changes. None of the patients presented any other congenital defect, and they were healthy in every other respect. He referred to published records of similar cases, in some of which *post-mortem* examinations had been obtained, and drew attention to the fact that the ocular muscles, and not their nerves, were the structures at fault. These muscles had, in some instances, been absent; in others, though present, they were occasionally ill-developed, and generally shorter than the average measurement, while in almost every case their insertions into the sclerotic were displaced more or less backwards, the greatest degree of displacement being 2.5 mm.

The President said that it was difficult to say whether the muscles were primarily at fault, or whether there was defective innervation of muscles; disease in early life might produce such effects.

Mr. Quarry Silcock supported the last idea, and related the case of a boy in whom the eyeball was not noticed to be fixed till the age of three years, and after a general illness which might have been infantile palsy, with a localization in the eyeball muscles.

Mr. Henry Power spoke of the solidarity between nerve and muscle; the condition might be looked upon in some cases as a reversion to an earlier type; turtles and other reptiles had little movement, and perhaps some mammals might show an absence of the levator.

Dr. Angel Money objected to the principle of so-called reversion to an earlier type, and preferred to speak of an arrest of development.

Mr. Brailey said that the development of the ocular muscles was not known; he did not think the reversion theory would hold good in the present instance.

Dr. Seymour Sharkey and Mr. Doyne thought that the term reversion was a useful one.

Living and Card Specimens.—Mr. Silcock showed a case of exostosis arising from the inner side of the orbit; sight had been early affected and was almost completely lost.

Mr. Hulke thought an exploration should be made; in one case in his own experience the tumor proved easy of removal.

Mr. Henry Power had had considerable difficulty in removing an exostosis from the roof of the orbit.

Mr. Nettleship, in reply to Mr. Silcock, said the sight failed after the proptosis had been present one year.

Mr. Spencer Watson considered exploration would be necessary; but caution should be used not to employ too much force in chiselling, etc.

Mr. Gunn: A peculiar foveal reflex in connection with amblyopia and myopia.

Mr. Nettleship showed an ophthalmoscopic drawing from a case of night blindness, with white dots scattered over the fundus. A discussion followed relative to whether these spots were identical with those seen in Tay's choroiditis.

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MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

STATED MEETING, OCTOBER 28, 1887.

President J. Perrigo, M. D., in the Chair.

DR. JOHNSON exhibited (1) a microscopic section of a nail showing parasitic onychia, which had been sent to him by Dr. Bell. The chains of trychophyton were seen in moderate numbers in the deeper layer of the nail and between the nail and its bed.

DR. BELL gave the following history of the case: Miss E., aged twenty, in scraping the back of her thumb nail about a year ago, cut through it about the middle. A light brown spot developed at this point and gradually extended to its free margin, and then began to grow backwards towards the matrix. It was painless. When seen the anterior two-thirds of the nail was dull and dry-looking, yellowish-brown in color, and raised from its bed at the free anterior margin to the extent of nearly half an inch. The tissue between the nail and its bed, at the margin, was quite dry and cancellated, resembling the cancellated structure of a dry bone. The nail was removed by slitting down the center and removing the two portions separately. This cancellated structure was separated from the nail-bed by a thin fibrous layer, beneath which the nail-bed was absorbed. Owing to its peculiar appearance the nail was macerated and sections cut through the diseased part. On examination, there showed in considerable quantities the mycelium and spores of the trichophyton, resembling the fungus as seen in tinea circinata rather than as usually seen in T. tonsurans. There was no history of tinea on this patient's skin, nor, as far as she knew, on other members of her family.

Broncho-pneumonia.—(2) A microscopic section through the lung of a sheep in a case of broncho-pneumonia, where great numbers of the embryos or strongylus filaria were found in the alveoli, which were filled with exudation, and there was severe bronchitis and peribronchitis of the smaller tubes. The adult forms were not found within the bronchi, having probably been coughed up. The embryos are not able to develop beyond this stage in the lung.

Amputation of the thigh.— DR. BELL exhibited a patient whose thigh had been amputated for periosteal sarcoma. The specimen had been exhibited at a previous meeting. The patient was eighteen years of age, and at the time of the operation had been in a very low state of health. His temperature ranged from 100°F. to 103½°F., his pulse from 120 to 140 per minute, and he was greatly emaciated. Amputation was performed by the circular method, about two inches below the base of the trochanter major, on the 3d of October, and from that time his condition improved rapidly. His temperature remained steadily at 98½°, and he rapidly gained flesh. The dressing was changed once only, on the eighth day, and removed on the twenty-fourth day after the operation, when the stump was perfectly healed.

Osteotomy for bow-legs.— A child, three and one-half years of age was shown to the Society, on whom Dr. Bell had performed double osteotomy. The condition was the result of rickets, from which the child had perfectly recovered. The operation had been performed by MacEwen's method, and had resulted very favorably. Photographs were shown of the child's legs before the operation.

Discussion.— DR. RODDICK referred to the good results obtained by Dr. Bell in using bone drains. His experience with this mode of draining was not so favorable, as he found that the bone drains were too rapidly absorbed. While he congratulated Dr. Bell on the excellent results obtained in his operation for bow-legs, yet he could

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not agree with the necessity for the operation. Dr. MacEwen, who introduced the operation, does not recommend its application in patients under nine years. He (Dr. Roddick) had obtained quite as good results from the use of mechanical contrivances in children even older than the patient. He thought that in most cases subcutaneous fracture is to be preferred to osteotomy, as it is a less serious operation, and offers less risk. While opposed to operations in most of these cases of deformity, he thought it was more frequently demanded in knock-knees than in bow-leg, as the former requires much longer and more painful treatment.

DR. SHEPHERD said that in one of the few times when he had used bone drains, he found the patient's temperature had risen and the drain plugged with a clot. He always prefers using rubber drains, which he cuts down to three-quarters of an inch at the end of twenty-fours. In Germany the "single-dressing" mania often results disastrously to the patient. In German hospitals he was frequently shown single-dressing cases where the temperature chart indicated an unhealthy condition of the wound. He had seen Dr. Bell's patient before the operation, and he could heartily congratulate him on the success. With regard to the osteotomy case, he referred to the erroneous but common opinion that all cases of bow-legs result from rickets. The peculiarity is often hereditary, and is quite normal in many of the anthropoid apes.

DR. ARMSTRONG referred to Dr. Levis' system of drainage. He uses solid rubber strings placed side by side, instead of tubes, thus obviating the danger of plugging.

DR. GURD said he had seen very good results from treatment of bow-legs by improving the general health. He had great faith in the efficacy of good hygienic surroundings and the use of tonics in such cases. Instruments have proved unsatisfactory.

DR. BELL, in reply, stated that the drains used were made from chicken bones, by the method recommended by Dr. MacEwen, of Glasgow. These could be obtained as hard or as soft as desired. In the case of osteotomy, the curve in the child's legs was greatest just above the malleolus, so it could not be treated by subcutaneous fracture.

Notes on acetanilide.—DR. MCCONNELL first briefly stated what was known about acetanilide or antifebrin up to the present time. It is procured from aniline acetate, is a white powder resembling santonin, insoluble in water, but soluble in alcohol. It is neither alkaline nor acid, and resists the majority of re-agents. It belongs to the order *Phenylacetamides*, quite different from the orders containing the majority of antipyretics, viz., the Phenols and Chinolins. Actions claimed for it are that it rapidly reduces the temperature in febrile states, without producing any untoward effects; that it is also hypnotic and analgesic, being especially useful in relieving pain linked with nerve alterations. In poisonous doses it will destroy oxyhæmoglobin, changing it into methæmoglobin. It is inexpensive, being only 10 francs per one kilogramme in France. He had used it in about twenty cases, of sixteen of which he had records — nine were cases of typhoid fever — in all of which the temperature was promptly reduced.

Discussion.— DR. PROUDFOOT had used acetanilide in painful affections of the eye, such as iritis and glaucomata, in doses of ten to fifteen grains. He found it reduced the temperature and relieved the pain almost instantly. If the pain was not relieved in one hour, he usually repeated the dose.

DR. STEWART said he had very little experience in the use of the drug. He had, however, administered it in five-grain doses to relieve the lightning pains of locometer ataxia, and found it very efficient. He regarded it as dangerous to give powerful drugs in fever cases to reduce temperature, as these act on the oxyhæmo-

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globin, thus reducing the patient's powers of resistance.

Dr. Reed stated that from Dr. Charcot's recommendation he had used it, but had not been able to relieve pain. He had found it to reduce the temperature for a time, though not sufficiently to encourage him to continue its use.

Dr. Perrigo said that the drug failed entirely in a case of malaria, in which he had tried it.

Dr. Roddick congratulated Dr. McConnell on his finding something to relieve the distressing headache of typhoid. He had given it in a case of erysipelas, but it had no effect on the temperature.

Dr. Blackader had also administered the drug in erysipelas with very little effect. The German authorities state that it is without effect in scarlet fever and erysipelas. He thought, however, that the anodyne properties of the drug would keep it in the pharmacopœia.

In reply to remarks of Dr. Stewart, that its action on oxyhæmoglobin was an objection to its use, Dr. McConnell said that this only occurs to any appreciable extent when over-doses are taken. The antipyretic action is almost altogether exerted through the nervous system, and chiefly the vaso-motor. The want of effect in cases referred to by Drs. Reed and Perrigo was probably owing to its having been administered in too small doses.

MEDICAL SECTION OF THE ROYAL SOCIETY OF NEW SOUTH WALES.

Meeting held in the Society's Rooms, Sydney, on August 19, 1887.

Members present: Dr. Sydney Jones, President, in the chair, Drs. Knaggs, Skirving, Goode, Ross, Faithfull, Chambers, Chisholm, Cragi, Power, Milford, Hankins, Lyden, Martin, Worrall, Brady, Twynam, Clune, Fiaschi, Garrett, MacLaurin, Mander Jones, Ellis, West, Anderson Stuart, and MacCormick and Jenkins (Hon. Secretaries.)

Dr. Knaggs exhibited for Dr. Roth a new spirometer and dynamometer, and explained the mechanism of both.

Dr. Sydney Jones regarded these instruments of little practical value in individual cases, but useful when statistics of large numbers of cases were kept, as tending to show the physique of a nation.

Drs. Milford, Garrett, Faithfull, Crago and Skirving, remarked that neither instrument was made use of in the insurance societies of which they were the medical officers.

Dr. Chambers then exhibited specimens:

(1) Hair-pin from urethra of girl aged 13. The hair-pin was inserted by the girl, and voided without surgical interference.

(2) New growth from "vulva," removed by Paquelin cautery. Of doubtful nature, but probably epithelioma or condyloma.

(3) *Uterine Fibroid*, from a woman aged 42. The whole uterus and appendages were removed, and the patient made a perfect recovery. A small intra-uterine polypus protruded through cervix. The difficulties in diagnosis were many and great before the operation.

Dr. Brady gave history of a child with stone in bladder formed round a pin. The child was only three years old.

Dr. Garrett exhibited the middle finger of his left hand, and the forefinger of his right, both in a condition of dry gangrene from accidental application of pure carbolic acid.

Dr. Goode related a similar case from a 1 in 20 solution of carbolic lotion, and Dr. MacCormick made some remarks on the anæsthetic and caustic action of carbolic acid, and the necessity of using warm water for diluting it.

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Meeting held on September 16, Dr. Sydney Jones in the chair. There were also present: Drs. Twynam, Chisholm, Goode, Waugh, Mander Jones, Faithfull, MacCulloch, Quaife, MacCormick, Jenkins, Sir Alfred Roberts, Brady, Worrall, Garrett, Skirving, Fiaschi and Caruthers.

The minutes of previous meeting having been read and confirmed,

Dr. Twynam read papers on two cases of amputation at the hip joint, and both patients were exhibited. One excited great interest, as the diseased bone which necessitated the operation was caused by caisson fever, contracted March 6, 1882, the patient working under a pressure of 45 pounds to the square inch.

Sir Alfred Roberts made some remarks, having seen the patient in the interest of the Government some time back, and that then there was exquisite tenderness over the right thigh, muscular pains, lung troubles and great deviations in the temperature.

Dr. Jones also joined in the discussion, and congratulated Mr. Twynam on the successful issue of his cases.

Dr. MacCulloch exhibited a patient with a marked curvature of left tibia. There had been a previous fracture of the fibula, but no fracture of the tibia. The bending commenced some considerable time after the accident. Drs. Brady, Waugh, and MacCormick joined in the discussion.

Dr. MacCormick exhibited a small piece of bone tipped with cartilage that he had removed from the knee joint.

Dr. Sydney Jones exhibited a peculiar growth he had removed from the anterior bone of axilla," an epithelial growth, with colloid degeneration."

Drs. Twynam and Skirving joined in the discussion.

Meeting held on October 21, 1887. Present: Dr. Sydney Jones in the chair, Drs, Blaxland, MacAllister, Faithfull, Kendall, Ross, Roth, Anderson Stuart, Garrett, Crago, Lyden, Waugh, Theophilus Jones, Chisholm, Goode, Deck, Knaggs, Hankins, Twynam, Worrall, Brady, Power, Wright, Phillips, MacCulloch, Fiaschi, Quaife, MacCormick, and Jenkins.

Dr. Chisholm read notes on a case of gastrotomy, and exhibited the patient, who fed himself through a glass funnel with milk. The true cause of the œsophageal stricture was obscure.

Dr. Hankins gave history of three cases of gastrotomy, two in adults, both of whom died, one from symptoms of peritonitis, and the other from inanition; and the third, a child. The smallest bougie could not be passed. The first stage of the operation was performed, and then a No. 1 catheter was passed, and it was found unnecessary to perform the second stage.

Drs. MacCormick, Brady, Anderson Stuart and Sydney Jones, joined in the discussion.

Dr. Waugh then exhibited a case of vicious union of the tibia—the lower half of tibia and fibula set at right angles to upper half. He was treated in the Melbourne Hospital, but left three weeks after admission, and was warned of the dangers.

Dr. Goode read a paper on a case of "Excision of the Rectum," and showed the case. Drs. Twynam and Sydney Jones made remarks as to the benefits of the operation, the methods, the prevention of bleeding, etc.

Dr. Sydney Jones then read, for Dr. Mander Jones, a paper on a case of "Intestinal Obstruction" in a woman aged 22, following inflammation after abortion. Dr. Sydney Jones opened the abdomen, and found the obstruction due to a dense band connecting the ileum and colon, with a mesenteric gland involved. The adhesion was cut through, and the patient made an excellent recovery. Drs. Ross, Crago, MacCormick, Twynam, and Worrall joined in discussion, the latter urging immediate operative interference in cases with urgent symptoms.

Dr. Sydney Jones replied.

Dr. Goode exhibited—

(1) Strangulated femoral hernia.

(2) An enormous fatty tumor.

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FOREIGN CORRESPONDENCE.

To the Editor of the Chicago Medical Journal and Examiner:

THE NEW PRODUCT.

The fact that a substance two hundred and twenty times sweeter than sugar is abstracted by an abstruse series of chemical processes from such an uncleanly looking product as coal-tar, seemed, when first bruited, a flight of imagination, and not worth being considered as a commercial reality. But such it has become. *Saccharine* is not now only a pretty laboratory experiment, as it was first thought to be. It was even stated that for commercial and domestic purposes it was impossible. To chemists now *saccharine* as a commercial product is a fact, pure and simple.

Saccharine has sweetening properties, but it is not sugar. It will sweeten but not fatten; it has no action whatever, as far as yet ascertained, upon the human system. Professor Stotzer, of Bonn, has conducted a variety of experiments upon animals, and affirms that the effect is *nil* on the canine system, although as much as would equal a pound of sugar has been administered daily. However, on the other hand, it is a pure chemical compound, and, it is said, may in time produce certain changes, especially in the liver.

It is made from the toluene of coal-tar, which is first treated with sulphuric acid in closed vessels rotating on horizontal axles. After the toluene has disappeared, the contents are run off in tanks, cold water and chalk being added. The product then contains calcium, ortho- and para-toluene sulphonates. This again is treated with carbonate of sodium and allowed to cool after the sodium salts have evaporated. The dried sulphonates then undergo a mixing with phosphorus tri-chloride, placed in lead-lined vessels, and chlorine is passed over the mixture. The oxy-chloride is driven off and phosphate of lime precipitated. When the sulpho compounds are cooled, crystals of para- and liquid ortho-toluene sulpho-chloride appear, the latter of which, only, is capable of yielding saccharine.

The liquid is then treated with solid ammonium carbonate, and subjecting the mass to the action of steam, which sets the carbonic acid free. Permanganate of potash is added to oxidize it, and precipitation takes place by adding hydrochloric or sulphurous acid—the true *benzoic sulphinide* is formed.

It is stated that one grain will sweeten a cup of tea or coffee, and the most nauseous compound is made palatable by its use.

A NEW SYSTEM OF TREATMENT.

It is again asserted from Vienna that the Crown Prince of Germany has for some weeks been under a new system of treatment. That new treatment is based upon investigations of Dr. Ernest Freund, a Vienna disciple of Professor Ludwig. Dr. Freund, it is stated, began to devote himself specially to the study of cancer in 1885. He has published a treatise based upon seventy different cases of carcinoma, in all of which he found the chief characteristic to be an abundance of sugar in the blood, and he even fixed upon a certain relative quantity of sugar in the blood, as the condition for the formation of carcinomatous cellules. From such a theory it follows that patients suffering from cancer should abstain from all sugar-forming foods, and, in addition, Dr. Freund uses a medicament for the oxidation of superfluous sugar in the body. It is stated that this treatment is now being tried upon the Crown Prince of Germany with satisfactory effect, the growth in the larynx showing a constant tendency to diminish.

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CANCER AND VACCINATION.

The following table, which has recently been compiled, will show the strides made by cancer in England and Wales concurrently with the extension of vaccination, which was first made compulsory in 1853.

Deaths from Cancer in England and Wales.

Decades.	Deaths.	Mean Annual Mortality per Million Living.
1851–60	60,196	317
1861–70	82,371	387
1871–80	114,405	473
1881–84 (4 years)	57,411	535

M. PASTEUR'S NEW SUGGESTION.

M. Pasteur, I see, has come forward with a suggestion for the abolition of the Australian rabbit plague. He says that the best way to get rid of the rabbits is to create among them some disease which will spread among the animals; that it is of no avail to confine operations to methods by which one rabbit has to be killed at a time, but the rabbits themselves must help in their own extermination, so to speak. M. Pasteur's idea is to sprinkle water previously mixed with "microbes of chicken cholera" near the burrows or the run of these rodents. He thinks that the rabbits in this way would be certain to get the disease, and all others would be infected by it. Chicken cholera, he states, is fatal to rabbits. The poultry must be kept clear of these infected spots.

SYSTEM OF ISOLATION.

London may at last feel reasonably confident that the epidemic of scarlet fever which existed during the summer months has exhausted its violence. London has utilized in the outburst of scarlet fever the buildings provided by the *Metropolitan Asylum Board*. This board has let it be understood that a refuge was ready for any who could not, with safety to themselves or to others, be nursed at home. It has been demonstrated here that isolation is the specific for the abridgement and the extinction of an epidemic of scarlet fever. It has been found that isolation in a room, or a couple of rooms, crowded with inmates, is unattainable.

By the establishing of a number of hospitals for the treatment of scarlet fever, the public began to see the advantages, both to the sick and the well, of the excellent nursing and judicious treatment.

Many patients of the well-to-do classes are known to have entered these hospitals. Had the old condition of things existed London would now, no doubt, still be a fever-stricken city, as relatives, friends, attendants and fellow lodgers would have been perpetually distributing the contagion.

WOOL-SORTER'S DISEASE.

The following brief history of two recent cases of anthrax, or "wool-sorter's disease," may prove interesting to your readers.

CASE I. The patient, a male, 40 years old, was admitted to Guy's Hospital, complaining of feeling sick and of having a small pimple on the back of his neck, which was troublesome. He stated that he was employed at London Wharf to assort hides, etc. The small pimple had become greatly enlarged in the space of twenty-four hours, involving the glands of his neck, which were much swollen. The house-surgeon stated that on careful examination of the patient it was discovered that he was suffering from a malignant pustule on the neck, or, as it was known in the leather trade, "wool-sorter's disease." The patient sank rapidly, and died on the fourth day after his admission to the hospital.

Microscopical examination of the blood being made, it was established that the patient died from anthrax.

CASE II. The wife of a wool-sorter called to consult her physician for a swollen condition of the lids of the right eye. There was noticed on the right cheek, about an inch and a half below the eye, an inflamed spot about the size of a pea. This spot or pimple was very annoying, on account of a constant itching. She had

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no pain and did not feel ill. Her temperature was normal, but the pulse was rapid. She was visited by her physician at her house, accompanied by a consultant, on the evening after her morning visit.

The swelling had extended downward to the ear and jaw, upward and forward across the face, slightly towards the left eye. She complained of dizziness, and said she felt the blood rushing to her head, and was somewhat delirious. Her pulse, temperature and respiration were nearly normal. She was seen again the next morning, when she stated that she had passed a good night, had slept well, and felt no pain. The swelling had extended over the face generally. On the second day from her visit to the physician, her pulse was found to be varying—when lying in bed it was 96, when erect, 116, and after trying the vomit it went up to 144. The swelling had by this time extended over the head and around the neck. She complained of a choking sensation, and said she felt very tired. On the third day marked improvement appeared to have taken place in her general condition; there was some diminution of the swelling. The physician was summoned on the morning of the fifth day, and found her in a dying condition. This was the last time he saw her alive. The foregoing history of the case was kindly furnished me by her medical attendant, to whom I am also indebted for an invitation to witness the post mortem, which was held thirty-four hours after death. Externally there was a deep purple discoloration of the face, neck, and upper part of the chest, extending down the arms to the elbow joints. The fingers, limbs, and feet were of a dark color. The head, face and front part of the chest were much swollen. The right cheek and eyelids, when stripped of the skin, presented a grayish appearance. On opening the chest, the lungs were found adherent to the chest walls. There was nearly a pint of clear fluid in the pleural cavites. The lungs were of a darker color than natural. Except the spleen, the internal organs appeared healthy. The spleen was enlarged and "pulpy." The blood was very fluid and of a purplish color. On examination of specimens of the blood from the body there were found specific organisms characteristic of anthrax.

The deceased had always appeared to those who were acquainted with her to have been a strong and healthy woman. From the statement made by the patient, the poison was thought to have been inoculated into the spot on the cheek not more than ten days before her death.

Is it not possible that what has been effected in the case of the lower animals, as by Pasteur's inoculation, may ultimately be applied to the saving of human life? Is there any reason why inoculation with attenuated solutions may not be advantageously practiced upon those persons whose duties require their frequent handling of hides, wool, ect.?

WM. B. MEANY, M. D.

LONDON, ENGLAND.

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EXTRACTS FROM THE REPORT OF THE SURGEON-GENERAL, UNITED STATES ARMY, 1887.

The money value of the medical and hospital supplies actually issued during the fiscal year ended June 30, 1887, was $159,366.95, and the cost of the supplies required for issue during the current fiscal year will undoubtedly exceed that amount. I base the estimate of the probable cost of the medical and hospital supplies which will be required for issue during the present fiscal year on the fact that the average money value of medical supplies issued annually during the fiscal year July 1, 1876, to June 30, 1887, was approximately $177,515.78, exclusive of all other expenses.

In this connection, I respectfully invite your attention to my estimate of appropriations required by the medical department of the army for the service of the fiscal year ending June 30, 1889, submitted to you on the 15th ultimo, as follows:

For the purchase of medical and hospital supplies, including disinfectants for general post sanitation, expenses of purveying depots, pay of employés, medical care and treatment of officers and enlisted men of the army on duty at posts and stations, for which no other provision is made; for the proper care and treatment of cases in the army suffering from contagious or epidemic diseases; advertising, and other miscellaneous expenses of the medical department (the amount to be expended for pay of employés not to exceed $38,000), $220,000.

For medical and hospital supplies for the army and navy hospital at Hot Springs, Ark., $4,000.

The estimated amounts will, it is believed, be necessary to meet the wants of the medical department for the purposes stated for the ensuing fiscal year. It becomes necessary from time to time to add to the standard supply table new remedies, new instruments, and new standard medical books, and provide them for use by medical officers of the army in the proper diagnosis and treatment of disease.

The limited number of contract surgeons allowed by law necessitates the employment of private physicians, under existing regulations, to furnish medical attendance to officers and enlisted men at stations where there is no medical officer of the army. These physicians are paid by the visit from the "medical and hospital appropriation." Added to this, is the necessary expenditure for the employment of skilled nurses for the proper care and treatment of cases of epidemic and contagious diseases.

I respectfully recommend, as specified in estimate submitted, that the limit of amount of the appropriation to be expended for the pay of employés of the medical department be increased to at least $38,000.

I have the honor to renew my recommendation made in my last annual report that, in order to facilitate the purchase and delivery of medical and hospital supplies, and for the best interests of the service, with a view to economy, Congress be requested to grant authority in the purchase of medical and hospital supplies which cost less than $500 to make such purchases, after due advertisement for bids, without entering into a formal written contract. In many instances, a strict compliance with the letter of the law and existing regulations in preparing the formal executory contracts, five copies of which are required, entails an expense to the government in clerical time and labor fully equal to the cost of the article for which the contract is made. It is not believed that such was the intention of the framers of the law relating to purchases of government supplies.

There were furnished during the year:

In kind:

Trusses	878
Artificial legs	103
Artificial foot	1
Artificial arms	3

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By commutation:

Artificial legs	301
Artificial feet	13
Artificial arms	390
Artificial hands	6
Apparatus for legs	343
Apparatus for arms	517

HEALTH OF THE ARMY FOR THE CALENDAR YEAR ENDING DECEMBER 31, 1886.

On account of its small size, and the nature of the service which it is called upon to perform, the Army of the United States is broken up into small commands, which are scattered over a vast territory comprising regions differing widely in physical features and climatic conditions. In studying the influence exerted upon the health of the troops by peculiarities of elevation, temperature, rain-fall, drainage, etc., it is necessary that the country shall be divided into regions, each of which shall be characterized by physical features and climatic conditions distinct from all others, but uniform, or nearly so, throughout its own area. That division which seems most nearly to meet these requirements, and to be the best adapted to the purposes of this report, is a modification of one made by Mr. Henry Gannett, of the U. S. Geological Survey, and used in the compilation of the mortality and vital statistics of the tenth census, and is shown in the accompanying map. The regions are eleven in number, as follows: The Atlantic Coast, Eastern Timbered Plains and Hills, Appalachian, Northern Lakes, Central Timbered Plains and Hills, Alluvial, Gulf Coast, Prairies, Great Plains, Cordilleras, and Pacific Coast.

On account of the great extent, north and south, of some of these regions, they have, for purposes of comparison, been subdivided into groups of posts.

During the year 1886 no troops were stationed in the Alluvial region, which comprises only the swamp lands of the Mississippi and Red river valleys, and consequently no mention is made of it in the succeeding pages of this report.

Under the head of each region is given a brief description of its distinctive features, and a table showing the military stations within its limits, together with the mean strength of command, admissions to sick report, number constantly non-effective, deaths, and discharges for disability for each station, followed by a general consideration of the subject of the health of the troops serving in the region during the year. Following this are given the principal facts in relation to the health of the whole army; the surgical record for the year; vaccinations; the health of colored troops, of Indian scouts, and of civilian attachés; marriages and births at military stations; the special reports of medical officers; and the hygiene of the army.

* * * * *

HEALTH OF THE ARMY AS A WHOLE.

The mean strength of the army for the year, including officers and both white and colored enlisted men, was 23,572, as shown by the monthly reports of medical officers. Of this number 21,430 were white, and 2,142 were colored (of African descent). These figures represent the average number present during each day of the year, with commands from which reports were received by the medical department. But the mean strength of the entire army, as shown by the returns of the adjutant-general, was considerably greater than that given above, being 23,737 white and 2,358 colored, or a total of 26,095 men. The discrepancy between the two sets of figures is due to the fact that every officer and enlisted man of the army is accounted for on the returns of the adjutant-general, while the consolidated reports of the medical department show only the strength of the commands from which they are received, and do not include the strength of officers and enlisted men on detached service, and of those commands to which no medical officer is attached, or from which no reports are received.

All the ratios given under the heads of

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the different regions are based on the mean strength as shown by the medical reports, and, with the exception of the death and discharge rates, are very nearly correct, because no cases of disease or injury are reported for that portion of the army whose mean strength is not reported also, and the number of cases thus lost probably balances the loss in strength. But in the record of deaths and discharges no such loss occurs, for all must, of course, be reported from one source or another; so that these two ratios, as stated for the several regions, are somewhat too high, because they are based upon the mean strength reported by medical officers, which, as above stated, is somewhat less than the actual strength of the respective commands. For the different regions, however, no other strength than that given in the medical reports is at hand, and consequently it has been necessary to use this strength in calculating *all* the ratios for these regions; but for the whole army the mean strength as shown by the adjutant-general's returns is available, and has been used in computing the rates of *death and discharge*. For all other ratios the mean strength shown by the consolidated reports of the medical department is used, and not that of the adjutant-general, which would make these ratios too low, for reasons indicated above.

The Indian scouts employed as auxiliaries to the regular troops averaged for the year 310, but they have not been included in the mean strength of the army or in calculating any of the ratios given in this report for the reason that they have so little in common with the regular troops in respect of their surroundings, habits, manner of living, duration of service, etc., that no comparisons of any value can be made concerning them; and when sick they so rarely come under the observation of medical officers that the reports of commands to which they are attached furnish but little or no information relative to the amount and character of sickness among them.

The rate of constant non-effectiveness was also lowered this year, being 39.4, while that for the previous year was 41.1, and for the preceding decade 44 per 1,000 of mean strength. The average loss of time on account of sickness for each man in the army was 14 days against 15 for 1885, and 16 for the preceding decade.

The death rate was 8.8 per 1,000, being higher than that for 1885, which was 6.9, an exceptionally low figure; but it was, however, considerably lower than the rate for the previous decade, which was 11.4.

COMPARISON WITH FOREIGN ARMIES.

The following table shows a comparison of the more important ratios bearing upon the health of the Army of the United States with the same ratios for certain foreign armies. In compiling these statistics the latest reports received have been used, and in all cases only the strength actually present with the colors has been considered:

Army.	Mean strength.	Ratio per 1,000 of mean strength for—						Sick-time to each soldier.	Average duration of each case of sickness.
		Admissions.			Deaths.	Discharges for disability.	Constant non-effective force.		
		Hospital or infirmary.	Quarters.	Total.					
United States (1886)	23,572	546	717	1,263	8.8	24.9	39.4	14	11
United States (1876–85, yearly average)	23,805	.....	.....†..	1,672	11.4	32.2	44.0	16	10
Belgium (1885)	46,017	1,525	.....	1,525	5.8	10.6	30.0	11	7
Great Britain (1884)	167,686	1,092	.....	1,092	8.4	18.0	56.4	21	19
France (1878)	440,614	554	2,016	2,570	9.1	13.7	46.6	17	7
Italy (1881)	191,366	928	.....	928	10.6	19.4	35.4	13	14
Prussia and Würtemburg (1881-82)	353,192	324	807	1,231	4.6	27.0	38.8	13	11

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SURGICAL OPERATIONS.

There were 152 surgical operations reported by medical officers during the year; 68 of these were necessitated by injuries, and 84 by various surgical diseases. Antiseptics were used in 71 cases after operations, 21 of which were for shot wounds, and in the treatment of 16 cases of shot wound not operated upon.

The following table shows the number, character, and results of the principal surgical operations performed during the year:

Nature of Operation.	Disease or injury.	Recovered.	Died.	Total.	Remarks.
Removal of tumors				21	
Sebaceous cysts		7		7	Scalp, 1; face, 5; neck, 1.
Fibroma		1		1	Hand.
Lipoma		6		6	Scalp, 1; cheek, 1; side, 1; back, 3.
Adenoid		1		1	Neck.
Papilloma		2		2	Face, 1; genitals, 1.
Epithelioma		1		1	Face.
Unclassified		3		3	Face, 2; neck, 1.
Removal of foreign bodies				9	
Bullet and shot	Shot wounds	9		9	Flesh wounds, 7; fractures, 2.
Opening of abscesses				3	
Perityphlitic	Perityphlitis	1	1	2	Incision and drainage.
Lumbar	Caries		1	1	Incision.
Operations on nerves				1	
Stretching of nerves	Neuralgia	1		1	Stumps of amputated fingers.
Operations on the eye				2	
Iridectomy	Laceration	1		1	Lodgment of missile.
Excision of the eyeball	... do	1		1	
Operations on the mouth				5	
Removal of tonsils	Tonsillitis	2		2	
Amputation of uvula	Elongated, 2; œdema, 1	3		3	
Operations on arteries				1	
Ligation	Incised wound	1		1	Ulnar: silk ligature.
Operations on veins				2	
For varicocele	Varicocele	2		2	
Operations on respiratory organs				2	
Paracentesis of pleura	Pleurisy	2		2	Aspiration.
Operations on digestive organs				17	
For fistula in ano		5		5	Incision.
For anal fissure		1		1	Dilation and incision.
For hæmorrhoids		8		8	Ligation, 2; excision, 6.
Laparotomy	Intestinal obstruction		1	1	Death on third day.
Paracentesis	Ascites		1	2	Not terminated, 1.
Operations on urinary organs				8	
Tapping of bladder	Laceration by kick		1	1	Aspiration.
For stricture of urethra	Traumatic, 1; gonorrheal, 6	7		7	Internal urethrotomy.
Operations on generative organs				14	
For phimosis		11		11	Slitting, 2; circumcision, 9.
For hydrocele		3		3	Tapping.
Operations on bones				8	
Removal of portions of	Necrosis, 5; shot fracture, 1	6		6	Maxilla, 1; clavicle, 1; radius, 1; cranium, 1; tibia, 2.
For ununited fractures	Compound fractures	2		2	Wiring, 1; splint, 1.
Operations on joints				6	
Reduction of dislocations		5		5	Shoulder, 2; elbow, 3.
Incisions	Abscess	1		1	Elbow joint.
Operations on muscles				1	
Myotomy	Anchylosis	1		1	Elbow.
Operations on limbs				45	
Amputation for injury				42	
Arm	Shot wound, 1; compound fracture, 1	2		2	Primary, 1; intermediate, 1.
Forearm	Shot wound, 2; compound fracture, 1	3		3	Primary, 3.
Finger	Shot wound, 12; injury, 12; frost-bite, 4	28		28	Primary, 14; intermediate, 4; secondary, 10.
Thigh	Shot wound, 2; compound fracture, 1	3		3	Primary, 1; intermediate, 1; secondary, 1.
Leg	Shot wound, 1; compound fracture, 1	2		2	Primary, 1; intermediate, 1.
Foot	Frost-bite	1		2	Intermediate; double amputation.
Toe	Shot wound, 1; compound fracture, 1	2		2	Primary.
Amputation for disease				3	
Finger	Abscess	1		1	
Thigh	Popliteal aneurism		1	1	
Toe	Deformity	1		1	
Operations on skin, etc				7	
Closure of wound	Laceration	1		1	Scalp.
Ingrown toe-nail		6		6	
Aggregate		144	6	152	1 double amputation; 1 case not terminated.

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HYGIENE OF THE ARMY.

By direction of the Secretary of War, on July 15, 1885, paragraph 2315 of the Army Regulations was amended to read as follows:

An important part of the duty of a medical officer of the army is the supervision, under the direction of his immediate commander, of the hygiene of the post or command to which he is attached, and the recommendation of such measures as he may deem necessary to prevent or diminish disease among the troops. For this purpose he shall at least once a month examine and note in the medical history of the post the sanitary condition of the quarters, including all buildings belonging to the post, the character and cooking of the rations, the amount and quality of the water supply, the drainage, and the clothing and the habits of the men, and make a report thereon in writing to the commanding officer, with such recommendations as he may deem proper. If the recommendations be approved and carried out, the medical officer shall note the fact in the medical history of the post. If the action recommended be deemed impracticable or undesirable, the commanding officer shall indorse his objections on the report and forward it to the department commander. A copy of such indorsement shall be furnished to the medical officer, who shall record it in the medical history of the post. A copy of each report, and of the action of the commanding officer thereon, will be forwarded as soon as practicable, through the usual military channels, to the surgeon-general for his information.

The good effect of this regulation is clearly shown by the character of the sanitary reports received from medical officers during the year 1886. Some of these reports, it is true, are merely perfunctory and contain little or no information which is of interest or value, but the majority of them bear evidence of careful and painstaking investigation on the part of the officers making them, and a full appreciation of the great responsibility devolving upon them in connection with the performance of this portion of their duty.

As is to be expected, out of the large number of recommendations made on the great variety of subjects dealt with in the monthly sanitary reports, a few were clearly not practicable, and concerning a few others, differences of opinion arose between the commanding officer and the medical officer; but by far the greater portion of the sanitary measures recommended were carefully considered, practical, and capable of being easily carried into effect with the means at command, and it is gratifying to note, the medical officers as a rule received the cordial support and co-operation of their immediate commanders in their efforts to increase the health and comfort of the commands to which they were attached. That these efforts have been attended with a large measure of success is evidenced by the diminished rates of sickness and mortality in the army for the year 1886, as compared with previous years.

Of all the unsanitary conditions reported during the year, that which appears to have been most serious, as well as most widely spread, was found to exist in connection with the privies, sinks, urinals, and other similar conveniences provided for the use of the troops. The cess-pool and privy-vault, or pit, is universally condemned as being a nuisance under any circumstances, and frequently a source of the gravest danger to health, and that they should be tolerated at so many of our military stations, in spite of the well known evils inseparably connected with their use, and in disregard of the repeated warnings and remonstrances of medical officers, is inexplicable upon any other ground than that the mere matter of convenience has been allowed to outweigh all other considerations. At some of the older posts, the privies, especially those of the officers' quarters, have for years been erected over sinks dug in the earth and moved from time to time, as these pits became unpleasantly full, to other locations close by, new pits being dug and the old ones covered over with earth, until, in the language of several of the reports on this subject, the back yards have become literally "honey-combed with deposits of filth." It seems to be urgently demanded that steps should be taken not only to do away with the

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evils complained of, but to prevent their recurrence, by the official prohibition of the use at military stations of such methods as are known to be dangerous in the disposal of excrementitious matters and waste of various kinds, and by the adoption, instead, of such system, or systems, as will meet as nearly as possible the differing requirements of different localities, and of modern sanitary science as well.

The lack of proper bathing facilities, not only for enlisted men but for officers, is seriously felt at many posts, and is a subject which well deserves greater attention than it has heretofore received.

FOOD.

With the few exceptions noted below, the food supplied to the troops was reported to be sufficient in quantity, of excellent quality, and usually well cooked. The opinion seems to be quite prevalent among both medical and line officers, serving at southern posts, that bacon should be issued instead of salt pork, for the reason that in those localities the latter is hardly ever eaten by the men, and the saving can only be sold at a very low price, if at all; so that the food value to the soldier of this portion of the ration is greatly diminished. On the other hand, bacon is occasionally relished by the men even in the hottest weather, and that which is not consumed by them always finds a ready sale at a good price, thus augmenting the company or hospital fund, and allowing the purchase of fresh vegetables and other articles of diet not included in the ration; so that the soldier suffers no loss in his food supply, whatever may be the pecuniary loss to the government through the greater shrinkage in weight, and liability to spoil, of bacon over pork.

BATHING FACILITIES.

In many, if not in most, of the older barracks and quarters the provision made for purposes of personal cleanliness of the occupants, in the way of properly constructed bath-rooms and lavatories, is notoriously inadequate and unsatisfactory, and, in the construction of some of the more modern buildings as well, this most important feature has either not been given the prominence which it deserves, or has been neglected altogether. In but very few of the sanitary reports of medical officers is the statement made that the bathing facilities are adequate and properly constructed, while in many reports, particularly those of western posts, reiterated complaints are made of deficiencies in these respects.

ARMY MEDICAL MUSEUM.

Twenty-one hundred and twenty-three specimens were added to the museum during the year; an increase of 768 over the number added the preceding year. This makes the total number of specimens in the museum June 30, 26,072, classified as follows:

	Specimens.
Pathological Section:	
In museum June 30, 1886	9,583
Received during the year	255
In museum June 30, 1887	9,838
Section of Comparative Anatomy:	
In museum June 30, 1886	1,622
Received during the year	52
In museum June 30, 1887	1,674
Anatomical Section:	
In museum June 30, 1886	2,345
Received during the year	607
In museum June 30, 1887	2,952
Microscopical Section:	
In museum June 30, 1886	9,510
Received during the year	536
In museum June 30, 1887	10,046
Miscellaneous Section:	
In museum June 30, 1886	346
Received during the year	438
In museum June 30, 1887	784
Provisional Section:	
Pathological specimens in museum June 30, 1886	270
Received during the year	173
Pathological specimens in museum June 30, 1887	443
Anatomical specimens in museum June 30, 1886	273
Received during the year	62
Anatomical specimens in museum, June 30, 1887	335

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The more interesting specimens added to the museum collection during the year ending June 30, 1887, were a series of plaster casts and bony preparations collected by the late Professor F. H. Hamilton, of New York; models of the heart and vessels of various fishes, mussels, etc., prepared by Auzoux, of Paris; skeletons and crania of ancient Laps and Finns; a series of corroded metal injection specimens of the vessels of the kidney, liver and lung, and a series of old microscopes illustrating the gradual improvement in these instruments during the last two centuries.

With the removal of the museum to the new fireproof building will uudoubtedly come large accessions of specimens contributed by physicians in all parts of the United States.

The recommendation made in the last annual report that authority be granted by Congress for the publication of an illustrated catalogue of the museum is respectfully renewed. A large part of the manuscript for such a catalogue has been prepared and it will form a work in three large volumes, which will be of great value and interest to the medical profession and will be of great benefit to the museum itself.

LIBRARY.

The following table shows the additions made to the library during the fiscal year:

Description.	On hand June 30, 1886.	Added during fiscal year.	Total, June 30, 1887.
Medical journals	24,116	1,261	25,377
Medical transactions	3,532	117	3,649
Bound theses	1,385	.....	1,385
Bound pamphlets	1,331	231	1,562
Other medical books	46,368	6,824	53,192
Total	76,732	8,433	85,165
Medical theses	42,212	3,067	45,279
Medical pamphlets	64,419	9,955	74,374
Total	106,631	13,022	119,653

There were presented to the library during the year, 375 books and 5,683 pamphlets.

There is urgent need of a large amount of binding for the library, there being now 7,400 volumes unbound, many of which are recent works which are almost daily called for by readers, but which should not be used until they are bound. This accumulation of unbound books is due to the fact that the amount allowed for binding for this office has been insufficient for several years.

INDEX-CATALOGUE.

Volume VIII of the Index-Catalogue, including from "Legier" to "Medicine (Naval)," forming a volume of 1,078 pages, has been printed and the edition distributed to those institutions and persons who have received the previous volumes. The usefulness of this work to the medical writers and teachers, not only of the United States but of other countries, can hardly be overestimated, and it is very desirable that it should be completed as rapidly as possible. The preparation of the manuscript of Volume IX is well advanced, and the first part of it is now going to press.

THE NEW MUSEUM AND LIBRARY BUILDING.

I take great pleasure in reporting that the new building to contain the museum, library, and hospital records, for which there has been such urgent need, is now rapidly approaching completion. It is thoroughly fireproof, and gives space for arranging the books, records and specimens in a way which will add largely to their utility. A portion of the building has been turned over to this department, and the most important part of the pension records and of the library have been moved to it and thus made secure from fire.

In this connection I desire to express my appreciation of the care and labor bestowed in the supervision of the construction of this building by the officers who have had charge of it, viz., Colonel T. L.

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Casey and Colonel J. M. Wilson, of the U. S. Engineer Corps. They have had many difficulties, but it is believed that the result is as satisfactory as the too limited appropriation at their disposal for this work would permit.

HOSPITAL CORPS.

"An act to organize the Hospital Corps of the Army of the United States" having been approved by the President, a board of competent and experienced officers was detailed to carry out its purpose and prepare the necessary plans for its working details; the report of the board having been approved by the Secretary of War and promulgated in orders to the army, the necessary transfers to the corps of enlisted men as acting hospital stewards and privates are being made as rapidly as possible.

The conditions of transfer are such that the corps will consist of a body of intelligent men, who, under instruction from the medical officers of the army in the important duties of caring for the sick and attendance upon the wounded, will furnish an organization under the control of the medical department, which will enable it to meet promptly all the accidents of peace and emergencies of war.

A system of lectures upon, and practical demonstration in, first aid to the wounded has already been successfully introduced, and drills for stretcher and ambulance service will soon be perfected.

The onerous and frequently dangerous service performed by the privates of the corps entitles them, in my opinion, to an extra pay. I accordingly recommend that an allowance of 20 cents per day be added to their present pay.

ARMY AND NAVY GENERAL HOSPITAL, HOT SPRINGS, ARK.

This hospital was opened for the reception of patients January 17, 1887, under charge of Major R. S. Vickery, surgeon U. S. Army.

Admitted as patients from January 17 to June 30, 1887		45
Returned to sick leave	4	
Left hospital	2	
Returned to company	8	
Returned to duty—commissioned officers	2	
Returned to furlough	1	
Died	1	
		18
Remaining in hospital June 30, 1887		27

The total number of applications from commissioned officers and enlisted men for admission is fifty-three, of which five were rejected.

The number of patients in the hospital July 1, 1887, was—

Officers of the army	5
Officers of the navy	1
Enlisted men of the army	21
Total	27

Total number of beds for patients, July 1, 1887:

For officers	16
For enlisted men	64

It is believed that the benefits to the army and navy from the use of the waters of this justly celebrated place will be great, and liberality in the supply of funds for its maintenance and improvement is earnestly recommended.

MISCELLANEOUS.

The Army Medical Board convened in New York city on the 6th of April, 1885, was dissolved by order from the War Department dated April 9, 1887. The following is a recapitulation of the work performed by the board during its session:

Assistant surgeons examined for promotion	8
Candidates for appointment in the medical corps invited to appear for examination	93
Candidates found qualified	16
Candidates rejected	21
Candidates who withdrew after partial examination	32
Total examined	69

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Candidates who failed to appear for examination	19
Candidates who declined to appear for examination	5
Number invited but not examined	24

Lieutenant-Colonel John Moore, assistant medical purveyor, was appointed surgeon-general, with the rank of brigadier-general, November 18, 1886, *vice* Murray, retired from active service.

There are no vacancies in the medical corps of the army.

The number of medical officers permanently disabled is becoming a matter of serious embarrassment to the efficiency of this department and renders necessary the employment, under contract, of private physicians; an expensive and unsatisfactory procedure, to remedy which it is hoped that Congress may be induced to take action by special or general legislation.

With this view I urgently recommend that an increase of twenty assistant surgeons be authorized; which addition, it is believed, will meet the necessities of the service.

EXTRACTS FROM THE FIFTEENTH ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE UNITED STATES MARINE-HOSPITAL SERVICE, 1887.

RELIEF FURNISHED.

Patients relieved	45,314
Treated in hospitals	13,084
Treated in dispensaries	32,230
Days' relief in hospital furnished	331,701

This is the largest number of patients furnished relief in any year since the organization of the service.

THE QUARANTINE SERVICE.

Vessels Boarded and Inspected at the Several United States Quarantine Stations.

	October, 1886, to April, 1887.	1887.					
		April.	May.	June.	July.	August.	Sept.
Delaware Breakwater	.....	.....	.....	45	49	22	29
Cape Charles	.....	7	17	7	11	17	70
South Atlantic (Sapelo Sound)	.....	.....	1	.....	1	.....	.....
Ship Island (Gulf of Mexico)	22	5	11	11	12	7	10

The station at Ship Island has been kept open the year round. The hospital at Delaware Breakwater is also kept open during the year, but the inspection of vessels is discontinued at the end of the quarantine season, usually October 31. The other stations are closed during the winter and placed in charge of keepers.

The stations at Delaware Breakwater and Cape Charles serve not only as protection to the several large cities and the States in the immediate vicinity, but through them to the country at large, and the recommendation made in previous reports that these stations be thoroughly equipped with all the modern appliances of quarantine, is respectfully renewed. Special appropriations are required to provide additional buildings and wharf facilities. Extensive repairs are also needed at Ship Island, or, in lieu thereof, a new plant on one of the other islands in the Gulf. One of the Chandeleurs, or the Grand Gozier, was recommended in my report for 1883, or the Pass à l'Outre, which would doubtless be the best location for the national quarantines. A bill for this purpose passed the Senate February 2, 1887,

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but, although reported back to the House favorably by the Committee on Commerce, it was not acted upon. The great importance of this measure leads me to hope that it will pass at the next session.

AID TO STATE AND LOCAL BOARDS OF HEALTH.

The several stations on the Atlantic and Gulf coasts should be properly equipped, and a station established on the Pacific coast, in San Francisco bay. Then the efficiency of the services contemplated by the act of April 29, 1878—aid to State and local boards—would be greatly increased.

The following letter has been received in regard to the Delaware Breakwater quarantine station:

STATE BOARD OF HEALTH,
EXECUTIVE OFFICE, 1532 PINE STREET,
PHILADELPHIA, *August* 3, 1887.

DEAR SIR: I am instructed by the State Board of Health of Pennsylvania to transmit to you the following resolution, passed at the stated meeting held July 13, 1887.

I have the honor to be,
Yours, very respectfully,
BENJ'N LEE, *Secretary*.

DR. JOHN B. HAMILTON,
Supervising Surg.-Gen., U. S. M. H. S.

Resolved, That, in the opinion of this board, the quarantine facilities now existing on the Delaware bay and river are insufficient in extent and antiquated in character, and this board, therefore, petitions the Government of the United States to complete the partial and inadequate arrangements which now exist at the mouth of Delaware bay, and to extend the term of quarantine against small-pox throughout the entire year.

WEEKLY ABSTRACT OF SANITARY REPORTS.

The publication of the weekly abstract of sanitary reports, as required by section 4 of the above-mentioned act, was resumed in January last and is being continued. Copies of each abstract are sent to the medical officers and acting assistant surgeons of the Marine-Hospital Service, customs officers, health officers of the various ports, State and local boards of health, and numerous sanitarians throughout the country.

In accordance with the provision contained in the sundry civil appropriation act, the method practiced in Mexico and Brazil for inoculation as a protection against yellow fever is now being investigated by Major George M. Sternberg, Surgeon U. S. Army, who has been detailed by the President of the United States for that investigation. He has been provided by this bureau with the necessary appliances, on his requisition, and it is believed that his report will be handed you in the course of the winter. Dr. Freire's own statement is now public as to the method claimed by him to have been successful in Brazil, and can be found in the Transactions of the International Medical Congress. The general opinion of sanitarians, however, has not yet crystallized in favor of inoculation as a preventive of yellow fever. The experiments made on the subject in Havana in 1855 were seemingly as conclusive as those of to-day, but they did not succeed in securing general adoption, and Dr. Sternberg's report will doubtless provide the necessary data for passing judgment on the efficacy of the methods.

CHOLERA IN EUROPE.

Cholera, although disappearing at one place only to reappear elsewhere, has lingered in Europe, principally in Italy, during the past year. The places from which the disease has been reported, in addition to those mentioned in the last annual report, are Cagliara, Rome, Castelamare, Genoa, St. Giovanni, Resina, Catania, Messina, Palermo, Valletta and Esseg, Austria-Hungary, and recent consular reports (August, 1887) show a rapid increase of the disease, especially in Rome, Tivoli, Valletta, Palermo, Messina, Resina, and Naples.

CHOLERA IN SOUTH AMERICA.

The disease made its appearance in Buenos Ayres in the month of November last, and was, as shown by the report of the United States minister, directly "imported from Genoa, Italy, by the Italian ship,

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Perseo, plying between Genoa and Buenos Ayres. The envoy extraordinary and minister plenipotentiary of the Argentine Government in Italy was a passenger on the ship, and the anxiety to secure him an immediate landing on the part of the ship's commander, seems to have so far overcome his sense of duty that, by concealed or garbled reports, he managed to turn loose on Argentine soil, first here, then at Rosario, a great many persons from an infected ship. The testimony of passengers shows conclusively there was nearly a score of burials at sea of those who died of cholera on the voyage." During the month of November. notwithstanding the promptness in adopting sanitary measures,two hundred patients sick with cholera were admitted to the cholera hospital at Buenos Ayres, of which number ninety-three died and seventy-three were still under treatment at the end of the month.

In Rosario the disease was more fatal; in a population of 50,000 there were from thirty-five to fifty deaths per day. In the cholera hospital alone there were over two hundred patients in November, of which more than fifty per cent. proved fatal. A month later the reports from Buenos Ayres were more encouraging, but the disease had broken out in greater violence in the interior of the republic. In Mendosa, the development of the disease was most remarkable; the population of the city, 20,000, was almost decimated. At Tucuman, Cordova, Montevideo, Santiago, and Valparaiso, and especially along the valley of the Aconcagua following the course of the river towards the sea, the spread of the disease was exceptionally rapid. It was reported that cholera disappeared from Buenos Ayres in the month of March, 1887, but a number of cases was reported the succeeding month, and an official report dated as late as August 13, 1887, says that "cholera has never fully disappeared from the south of Chili, and that it is now increasing at Concepcion, and possibly at Talcahuano and Talca, and is causing much alarm on the coast."

CHOLERA IN THE UNITED STATES.

The steamship *Alesia*, from Naples, Italy, arrived at the New York quarantine on the night of September 22, 1887, with four cases of cholera on board. Eight deaths from the same disease occurred on the voyage. Three cases were also imported on the steamship Britannia.

NOTIFICATION FROM ABROAD.

The forthcoming regulations of the Department, I am informed, will contain full and complete instructions to United States consular officers in regard to prompt notification of the existence of epidemics in foreign countries, and of the departure of emigrants and vessels from infected ports. The aid in this matter, heretofore furnished by the Department of State, is very great, but it will be greater under the new regulations.

If Congress will only provide for the proper equipment and maintenance of the national quarantines the sanitary defenses against invasion of epidemic diseases will be greatly strengthened. The act of April 29, 1878, should be supplemented by new legislation providing a severe penalty for its violation. A vessel bringing cholera or yellow fever to our shores with the connivance of the officers, should not escape lightly.

APPOINTMENTS.

One examining board was convened during the year for the examination of applicants for admission into the service, and of the seven candidates who passed the examination successfully, one was appointed an assistant surgeon, taking rank in the order of merit. The service is open to all regular graduates in medicine, between the ages of twenty-one and thirty years, without regard to political recommendations.

Acting assistant surgeons have been reappointed at Delaware Breakwater, Cape Charles and Gulf quarantines for duty during the quarantine season.

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QUARANTINE HOSPITALS.

The hospitals at Ship Island, Sapelo Sound, and at Fisherman's Island are mere temporary structures, maintained from year to year from the contingent appropriation for the prevention of the spread of epidemic diseases. The hospital at the Delaware Breakwater is in better condition than either of the others, but it is out of the question to have first-rate hospitals on such an uncertain basis as that of contingent appropriations. If they are to be maintained at all, they should be well built and in such a manner as to insure the highest state of efficiency.

REPORT OF SURGICAL OPERATIONS.

FISCAL YEAR 1887.

Operations.	No. of cases.	Remarks.
Total Number of Operations	**613**	
REMOVAL OF TUMORS	23	
For sebaceous cysts	3	Removed.
For cyst of neck	2	Aspiration and compression.
For keloid of jaw	1	Removed with knife.
For keloid of neck	1	Do.
For lipoma of back	2	Do.
For adenoma of neck	1	Do.
For epithelioma	6	Do.
For carcinoma, upper jaw	1	Removal of jaw; in hospital.
For sarcoma of orbit	1	Enucleation.
For lipoma of orbit	1	Removed with knife.
For melano-sarcoma of choroid	1	Enucleation.
For synovial cyst of wrist	1	Removed with knife.
For non-malignant growth of eyelid	1	Do.
For colloid carcinoma of breast	1	Do.
REMOVAL OF FOREIGN BODIES	6	
For gunshot wound of chest	1	Ball removed.
For gunshot wound of hand	2	Do.
For gunshot wound of thigh	1	Do.
For splinter in thigh	1	Splinter removed.
For needle in arm	1	Needle removed.
OPENING OF ABSCESSES	10	
For abscess of liver	2	Incision, 1; aspiration, 1; died, 1.
For abscess, scrotum and perineum	1	Died; pyæmia.
For abscess, perityphlitic	1	Incision and drainage.
For abscess, perinephritic	1	Do.
For abscess, psoas	1	Aspiration; recovery.
For abscess, axilla	1	Incision and drainage.
For abscess, chest wall	1	Incision and curetting.
For abscess, forearm, dissecting	1	Incision.
For abscess, ischio-rectal	1	Incision and drainage.
OPERATIONS ON THE NERVES	3	
For neuralgia, fifth nerve	2	Section of inf. maxillary nerve, 2.5 cm. removed, 1; neurotomy left sup. max. div., 1.
For neuritis, popliteal branches	1	Stretching popliteal nerve; successful.
OPERATIONS ON THE EYE AND APPENDAGES	12	
For entropion	1	
For pterygium	5	Excision.
For lachrymal abscess	1	Incision.
For prolapse of iris	1	Iridectomy.
For cataract	1	Flap operation.
For chalazion	1	Excision.
For ulcer of cornea	1	Iridectomy.
For leucoma	1	Do.
OPERATIONS ON THE HEAD	2	
For fracture of the skull, punctured	1	Trephined; recovered.
For Dermoid cyst, frontal bone	1	Extirpation.
OPERATIONS ON THE FACE AND MOUTH	10	
For removal of tonsils	1	Hypertrophy.
For elongation of uvula	2	Excision.
For necrosis, upper jaw	4	Dead bone removed.
For necrosis, lower jaw	1	Do.
For cleft palate	1	Unsuccessful.
For necrosis of turbinated bones	1	Crushed and removed.
OPERATIONS ON THE ARTERIES	3	
For aneurysm, popliteal artery	2	Compression, 1 failed; ligation, 1 successful.
For wound of temporal artery	1	Ligation.

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SURGICAL OPERATIONS, FISCAL YEAR 1887—*Continued.*

Operations.	No. of cases.	Remarks.
OPERATIONS ON THE VEINS	2	
For varicose veins of leg	2	Successful, 1; unsuccessful, 1.
OPERATIONS ON THE RESPIRATORY ORGANS	23	
For hydrothorax	14	Aspiration; two died.
For empyema	7	Paracentesis and excision of rib; all recovered.
For abscess of lung	1	Aspiration; not successful.
For hæmatoma	1	Do.
For œdema of glottis	1	Laryngotomy; recovery.
OPERATIONS ON THE DIGESTIVE ORGANS	66	
For hernia, inguinal, strangulated	3	Two died.
For hernia, radical cure	11	One died.
For fistula in ano	20	Incision, 19; ligature, 1.
For hæmorrhoids	26	Ligature, 14; injection carbolic acid, 7; clamp and cautery, 3.
For ascites	6	Three died.
OPERATIONS ON THE LYMPHATIC ORGANS	16	
For removal of diseased lymph-glands	16	Dissected out.
OPERATIONS ON THE URINARY ORGANS	156	
For pyonephrosis	2	Nephrotomy; successful.
For retention of urine	1	Aspiration of bladder; died.
For vesical calculus	3	Lateral lithotomy, 1; median, 2; all recovered.
For stricture of the urethra	147	
a. Gradual dilatation	14	
b. Forcible dilatation	52	
c. Internal urethrotomy	69	3 died: 2, pyæmia; 1, shock.
d. External urethrotomy	5	1 died; pyæmia.
f. Perineal section	1	Recovered.
g. Slitting meatus	3	
For urinary fistula	2	Plastic, 1; not successful, ext. urethrotomy, 1.
For cystocele	1	Emmet's operation.
OPERATIONS ON THE GENERATIVE ORGANS	113	
For phymosis	70	11 slitting; 59 circumcision.
For hydrocele	28	20 radical cure.
For hydrocele of cord	4	Radical cure.
For sarcoma, testicle	1	Castration.
For orchitis, chronic	1	Do.
For syphilitic disease of testicle	1	Do.
For tubercular disease of testicle	3	Do.
For cystic disease of testicle	2	Do.
For hæmatocele	1	Incision.
For epithelioma of penis	1	Amputation.
For primary syphilitic disease of penis	1	Do.
OPERATIONS ON THE ORGANS OF LOCOMOTION	63	
ON BONES	22	
For caries of sternum	3	Dead bone removed.
For fracture, elbow joint	1	Excision olecranon.
For necrosis of ulna	3	Dead bone excised.
For caries of radius and ulna	1	Bones scraped.
For caries of pelvis	2	Scraping.
For necrosis of humerus	1	Removal necrosed bone.
For necrosis of patella	1	Do.
For necrosis of tibia	4	Do.
For necrosis of femur	1	Trephine and gouge.
For vicious union, bones of forearm	1	Refracture.
For ununited fracture of tibia	3	2 unsuccessful.
For faulty union, fractured femur	1	Refracture.
ON JOINTS	41	
Inflammation of hip	1	Resection.
Reduction of dislocations:		
Jaw	2	Manipulation.
Shoulder	2	Do.
Clavicle, sternal	1	Do.
Elbow	2	Do.
Hip	1	Do.
Ankylosis, elbow	1	Rupture.
Loose cartileges, knee-joint	2	Incision and removal.
Chronic synovitis, knee-joint	24	Aspiration.
Bursal inflammation	3	Do.
Bursal tumor	1	Removed.
Contraction extensor tendons of toes	1	Tenotomy.
AMPUTATIONS	96	
Fingers for contracted tendon	1	
Fingers for whitlow	6	
Fingers for frostbite	3	
Fingers for necrosis	10	
Fingers for abscess	2	
Fingers for caries	4	
Fingers for compound fracture	7	
Fingers for lacerated wound	10	
Fingers for burns	1	
Hand for compound com. fracture	1	

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SURGICAL OPERATIONS, FISCAL YEAR 1887—*Continued.*

Operations.	No. of cases.	Remarks.
AMPUTATIONS—Continued.		
Hand for osteitis	1	
Forearm for compound com. fracture	1	
Forearm for necrosis	1	
Forearm for caries, radius, and ulna	1	
Arm for compound fracture	3	2 recovered; 1 died.
Toes for compound fracture	2	
Toes for frostbite	21	
Toes for gangrene	1	
Toes for necrosis	4	
Toes for periostitis	1	
Toes for wound	1	
Toes for ankylosis	1	
Foot for compound fracture	1	
Foot for frostbite	4	
Foot for lacerated wound	1	
Foot for necrosis	1	
Leg for compound com. fracture	1	Died; septicæmia.
Leg for necrosis	2	Both recovered.
Thigh for necrosis	2	Do.
OPERATIONS ON THE SKIN	9	
Chronic ulcer	4	Skin grafting.
Ingrown nail	1	Avulsion.
Onychia	2	Nail removed.
Contracted palmar fascia	1	Subcutaneous section.
Lac. wound of hand	1	Skin grafting.

PTOMAINES.

BY CHARLES O. CURTMAN, M. D., ST. LOUIS, MISSOURI.

A report on the present state of our knowledge of ptomaines and their relations to bacteria.

The detection of the poisonous vegetable alkaloids in the dead body has always been considered to be one of the more difficult problems of analytical chemistry. Yet by means of the methods devised by Stas, Otto, Erdmann, Uslar, and Dragendorff, and their various modifications, sufficient of system and accuracy was introduced to regard the results with a general feeling of confidence. If errors and deficiencies occurred now and then, they were placed to the account of individual inaccuracy and want of dexterity rather than that of imperfection in the methods. Some chemical authorities cautioned against wrong conclusions, as, *e. g.*, Sonnenschein against mistakes occasioned by the "well-known substance derived from he liver," but altogether the established methods were relied upon as trustworthy, and expert testimony in criminal cases was fully based upon them. Hence the publication by Selmi, in 1873, of his investigations of cadaveric alkaloids or ptomaines produced amazement and consternation, by destroying at a sudden stroke all confidence in the results of past research in this field. The position of forensic experts became especially painful by creating doubts of the justice of certain decisions in criminal cases.

The discoveries of Selmi were in a short time confirmed by other scientists, and each year increased the number of substances found in dead bodies, which gave with the customary reagents, color changes and precipitates similar to those produced by the well-known alkaloids. There were reactions found closely resembling those of delphinine, curarine, strychnine, etc., and the efforts of analysts were henceforth directed to the discovery of means to distinguish the two classes of substances.

Among the first of them Brouardel and Boutmy proposed the reduction of a solution of ferric chloride and ferricyanide of potassium to the insoluble Prussian blue. They asserted that such reduction was the

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peculiar property of all ptomaines, while none of the true alkaloids produced it, with the sole exception of morphine. Armand Gautier showed, however, that hyoscyamine, colchicine, nicotine and apomorphine also reduced the ferric ferricyanide solution, though somewhat more slowly than morphine. To this list of reducing vegetable alkaloids C. Tanret added ergotinine, aconitine, digitaline and eserine. In an investigation published several years ago I succeeded in showing that besides morphine and the above mentioned, a number of other alkaloids of opium, as well as brucine, strychnine, cocaine, atropine, cinchonidine and several others reduce the ferric ferricyanide solution with great rapidity. It has since been found that many ptomaines are entirely devoid of such power of reduction, while in many cases this action was due to admixtures of peptone, collidine, etc., to the impure ptomaines as they were generally obtained in sirupy extracts.

In hunting for other means of differentiation, it was found that while most alkaloids are optically active in turning the plane of polarization, ptomaines are altogether inactive. But even this distinction, should it prove to be applicable in every case, avails but little, on account of the minute quantities to which the analyst is so frequently limited.

Still the number of ptomaines kept on increasing, and, based upon coincidences of the reactions with those usually relied upon for alkaloids, many individuals, some poisonous, some innocuous, were described and paraded in the journals. The difficulties of distinguishing them from vegetable alkaloids appeared to multiply to such an extent that forensic chemists began to think they would be driven off of this field of investigation entirely.

Meanwhile an extensive literature on this subject was forming, and the names of T. and H. Husemann, Panum, Selmi, Ciotto, Graebner, Otto, Dragendorff and others appeared frequently in our professional journals in connection with interesting reports on ptomaines. As a reminder I mention a few items.

In the criminal process against the servant of the Italian general, Gibbone, accused of having poisoned his master, the experts reported that delphinine had been the cause of the general's death. Francesco Selmi saved the defendant from unjust conviction by proving that the reactions erroneously relied upon to prove the presence of delphinine were due to a ptomaine formed by the putrefaction of the dead body.

In the case of the widow Sonzogno, who was believed to have perished by morphine poisoning, Selmi also proved the experts in error, and showed conclusively that a cadaveric base had furnished the reactions which had been mistaken for those of morphine.

In a third case in Verona, strychnine, so easily recognizable by characterstic reactions, was reported as the cause of death, while Selmi proved clearly that strychnine was absent and that some reactions similar to it had been due to a ptomaine.

Shortly before his early death the same distinguished investigator prepared a crystalline substance, resembling curarine from putrefying albumen. The ptomaine which showed such great resemblance to strychnine was also found by Ciotto.

Panum isolated from septicemic material, almost in a pure state, a ptomaine resembling curarine, and ascribed it to the action of bacteria. In animals subjected to its action it produced violent inflammation of the mucous membrane of the small bowel. Bence Jones and Dupré obtained from human and animal livers in an advanced state of decomposition a substance showing blue fluorescence like that of quinine, to which they gave the name of animal chinoidine.

Zuesler and Sonnenschein prepared from putrescent cadavers a substance resembling atropine, which, in experiments on animals, increased the activity of the heart, enlarged the pupil and paralyzed the non-striated muscles of the intestine.

Roersch and Fassbender obtained a pto-

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maine similar to digitaline; Schwanert, one resembling propylamine. One, approaching in qualities to coniine, was found by Armand Gautier and also by Marquardt and Hager, and was named septicine by the latter. In the criminal case Krebs-Brandes a similar substance was found by Otto accompanying the arsenic that had been administered. In a goose, Brouardel and Boutmy found a ptomaine resembling coniine.

Besides these, many other ptomaines were discovered by various investigators. Not only decomposing animal tissues, but also various parts of plants, furnished ptomaines. Thus Bergmann and Schmiedeberg obtained from putrid yeast a poisonous crystalline substance, which they named sepsine.

A. Poehl, a member of the commission charged by the Russian government with the investigation of the epidemic of ergotism which prevailed so extensively in 1881, found a large amount of ptomaines in flour made from rye infested by the claviceps purpureus.

Many efforts were made to improve the prevailing methods of Otto-Stas and of Dragendorff, so as to insure a more accurate differentiation between alkaloids and ptomaines, but to some extent all failed, and no method yielded the ptomaines in a sufficiently pure, crystallized condition for accurate analysis.

Nencki, of Berne, was the first who obtained from putrid gelatine a chemically pure platinum double salt of a ptomaine. This, on analysis, proved to be collidine, $C_8H_{11}N$, a member of the pyridine series.

Shortly after this, Gautier and Etard prepared parvoline, $C_9H_{13}N$, from putrefying mackerel.

Since 1883, Professor Brieger, of Berlin, has occupied himself considerably with the investigation of the ptomaines, and succeeded in elaborating methods for the isolation of a great number of these interesting substances in a state of absolute purity. He reached his object principally by means of the preparation of the gold and platinum double salts and the picrates of the ptomaines, which crystallize in well-defined forms, and permit absolute purification.

The pure ptomaine salts thus obtained differ materially from the sirupy extracts hitherto supposed to be the pure salts. Many of the alkaloid reactions observed with the impure articles do not occur at all with the pure substances, and were due to admixtures of peptones and other bodies. A number of the compounds, as now studied in their pure state, do not come under the classification of true alkaloids in the present sense, which restricts the name alkaloids to the pyridine derivatives, but prove to be amines, ammonium bases and amido compounds of various composition. Some, in chemical constitution as well as in their toxic effects, resemble *muscarine*, $CHO—CH_2—N(CH_3)_3—OH+H_2O$. This poisonous base occurs together with amanitine (identical with choline from bile) in the fly-agaric, amanita muscaria. It has been artifically prepared by oxidation of the choline, or bilineurine, of hog's bile. These bodies are in close relation with *glycine* (called also glycocoll or amido-acetic acid), among whose derivatives we number *betaine* (called also oxyneurine or lycine), found in beets, the highly poisonous *neurine*, the non-poisonous *neuridine* and many others.

Others of the pure bases discovered by Brieger are di-amines, as, for instance, the *cadaverine*, identical with pentamethylene-diamine, $NH_2—CH_2—CH_2—CH_2—CH_2—CH_2—NH_2$, and *putrescine*, a di-methyl-ethylene-diamine.

In his second report on investigations of the ptomaines, published in 1885, Brieger enumerates the following ptomaines discovered by him in human cadavers:

Choline, $C_5H_{15}NO_2$, a non-poisonous ethylium base.
Neuridine, $C_5H_{14}N_2$, non-poisonous.
Cadaverine, $C_5H_{16}N_2$, a strong reducent.
Putrescine, $C_4H_{12}N_2$.
Saprine, $C_5H_{16}N_2$, strong reducent.
Trimethylamine, $(CH_3)_3N$.
Mydaleine,————, a strong reducent.

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Most of these are diamines of the fatty series.

Besides these bases, other well-known products of putrefaction were found, such as phenol, mostly paired with sulphuric acid, ortho- and para-cressol, indol and scatol, as well as other bodies of the aromatic series.

All of these occur as products of putrefaction, and it appears that within the first few days after death no poisonous base is formed. After the disappearance of the non-poisonous choline, however, compounds are formed of strongly toxic properties, among them especially *neurine*. When a solution of a few milligrammes of this is injected into cats, guinea pigs or rabbits, it rapidly induces fatal poisoning, most especially in the cat. At first copious moisture appears in the nares, then tough mucus in the corners of the mouth, followed by copious salivation, lachrymation, accelerated respiration and dyspnœa. The pulse at first is more frequent, then gradually sinks, and death occurs in diastole, with the heart filled to its utmost capacity. The symptoms are accompanied by increased peristaltic action of the bowels, and contraction of the pupils. Atropine is an effective antidote.

As there was a strong probability that these ptomaines were products of the metamorphosis of protein bodies by the bacteria of putrefaction, several series of experiments were instituted to cultivate them in sterilized protein derivatives, so as to be able to test purified products of various kinds of bacteria. In addition to the basic substances already named, there were found in putrefying fish and horse-flesh, *gadinine*, *ethylene-diamine*, *tri-methyl-amine* and other bases. Recently, Vaughan prepared from milk and cheese the *tyrotoxine*, which, however, thus far has not been obtained of sufficient purity for analysis.

The action of *pathogenic bacteria* was also studied, and ptomaines were obtained, which promised interesting explanation of the symptoms of infectious diseases. After the discovery of pathogenic bacteria and their noxious influence on the living organism of plants and animals, the modus operandi of their deleterious action still remained obscure. It was accounted for by the mechanical irritation and pressure upon the tissues produced by their rapid multiplication, and by actual trauma of the cell walls perforated by sharp projections of the bacterium. This compression produced disturbance of nutrition, obstruction of circulation, interference with the regular excretion of the effete residues of tissue metamorphosis. Added to this was the using up of the nutrient elements required for the building up and repair of the body. All such consequences of bacterial invasion appear too natural and self-evident not to be assented to without much contradiction. But how does this explain the manifold symptoms observed at the bedside of persons affected with infectious disease? If the causes admitted to exist were the only or even the most important ones, whence the great multiplicity of phenomena? Why not identical, or at least very similar, disturbances when the same organ is infected by the most different parasites? We might thus account for a difference in the intensity of the symptoms, but never for the great variety actually observed.

Let us consider the action of bacteria and living ferments on dead material. In a solution of glucose quite a number of various saccharomyces grow and multiply at the expense of the sugar, leaving behind carbonic acid and alcohol as the final products of their vital process. In the same sugar solution bacillus subtilis effects quite a different metamorphosis, and lactic and butyric acids are here the result of the fermentation. Glycerine by the same bacillus is changed to propylic alcohol. If the brewer permits the true beer yeast, saccharomyces cerevisiæ, in his malt infusion to be substituted by other closely related cryptococci (known as spurious yeast) then alcohol is still formed, but is accompanied by nauseous division products of the sugar, and the beer is spoilt. Wine, fermented

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with spurious yeast becomes stringy or acrid or otherwise deteriorated, as is ably shown in Pasteur's investigations. It would be easy to cite other well-known examples of similar character. We find here evidently that, when studying bacterial action, we must regard not only the material used up for their nutrition, but also the excrementitious residues they leave behind them.

The bacteria which excite malodorous putrefaction produce besides carbonic acid gas, sulphuretted hydrogen and gaseous hydrocarbons, also phenol, ortho- and para-cressol, indol, scatol, and, according to the different composition of the tissues invaded, a variety of ptomaines, muscarine, putrescine, cadaverine, gadinine, etc., as already stated.

Very similar to this is the action of pathogenous bacteria so far as at present investigated.

In 1885, Villiers isolated, according to Brieger's method, from bodies dead with *cholera*, a liquid ptomaine possessing the odor of hawthorne flowers, which in experimental animals produced violent tremors and strong disturbances of the heart's action, together with increased peristaltic action of the intestines.

He afterwards found a peculiar ptomaine in the victims of *pneumonia*, which bore close resemblance to that found in cases of *diphtheria*, but neither of those preparations was obtained in sufficient quantity to obtain its pure and crystallized salts for analysis.

Hoffa and others studied a ptomaine produced by the *bacillus anthracis*, but did not succeed in arriving at an unquestionable result.

The interesting researches of A. Poehl show that various bacteria, inoculated into sterilized gelatine, so changed this material that it gave undoubted evidence of the production of reducing ptomaines, whose formation could be observed while the life-process of the bacteria was going on. Among these were the bacillus of typhus, the streptococcus pyogenes aureus, Koch's comma bacillus (brought by Dr. Raptschewsky from Spain). All these strongly reduced the ferric ferricyanide added to the gelatine, while the Prior - Finkler bacillus of cholera nostras, in spite of repeated trials, yielded no such reducing product, and throughout showed itself much less greedy of oxygen than the bacillus of cholera Asiatica. The experiments, however, do not exclude the formation of a non-reducing ptomaine by the Prior-Finkler bacillus of cholera nostras (the vibro proteus). The comma bacillus also produced in these experiments a peculiar red pigment, soluble in amylic alcohol, whose composition is most probably that of a derivative of scatol (methyl-indol).

Professor Brieger, a very zealous worker in this field, speaks of this relation of the bacteria in the third volume of his *Untersuchungen ueber die Ptomaine.* The changeable picture presented by infectious diseases points out that this group of maladies, comprising the far preponderating majority of all cases of sickness, must seek its origin in very different causes. Quite a number of different pathogenic bacteria are already known, whose agency in the causation of a series of diseases is beyond all controversy.

He dwells on the necessity of discarding ambiguous terms, to which, by various succeeding writers, different shades of meaning have been affixed, and advocates the adoption of a clear, well-defined nomenclature so as to avoid future misunderstandings. He proposes the retention of the generic name of ptomaine for any basic product of bacterial action, while he gives the names of toxines to the poisonous ptomaines. The name leucomaines is reserved for the bases examined by Gautier and by Kossel and Salomon, which are formed from the albumens during the normal process of life.

To avoid confusion, Brieger first re-examined all the ptomaines produced by the action of the bacteria of putrefaction (B. termo and B. lineola), among which

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there are found several highly poisonous toxines. In addition to those already mentioned, he found in putrid horse-flesh (of which sometimes several hundred pounds were used at once), besides cadaverine and putrescine, a very poisonous amido-acid, $C_7H_{17}NO_{21}$, which produced in experimental animals symptoms resembling those by curare. This was accompanied by a still more poisonous, but more slowly acting base, the mydatoxine, $C_6H_{13}NO_2$; also the poisonous methyl - guanidine, $C_2H_7N_3$, evidently a derivative of kreatine.

Oscar Bocklisch, together with Brieger, examined putrefying fish and found the non-poisonous bases, cadaverine and neuridine; besides these, di- and tri-methyl-amine, putrescine and other putrefaction bases.

In the mytilus edulis, an oyster-like mollusk, whose use as food has several times occasioned extensive poisoning, Brieger found the highly poisonous mytilotoxine, $C_6H_{16}NO_2$ betaine and other bases, as the products of incipient putrefaction.

After a very thorough-going study of the products of the putrefactive process, Brieger investigated the ptomaines produced by the culture on sterilized substrata of pathogenic bacteria.

Staphylococous pyogenes aureus yielded no toxine, but only ammonium salts. Pure cultures of streptococcus yielded considerable quantities of tri-methyl-amine, which is not entirely free from poisonous properties.

The Koch-Eberth typhus bacillus produced a small quantity of an exceedingly poisonous ptomaine, having the formula $C_7H_{17}NO_2$ (isomeric, but not identical with the above mentioned putrefaction ptomaine). To this the name typhotoxine was given. It produced in experimental animals a lethargic condition and other symptoms resembling those of typhus in man.

From cultures of the tetanus virus Brieger obtained the base tetanine $C_{12}H_{30}N_2O_4$, besides much ammonia. The hydrochlorate and still more the free base, when injected into the lower animals, produced clonic and tonic spasms of great violence, and led rapidly to a fatal termination.

Of others who have investigated this interesting subject, I mention Doleris and Butte, who in the blood of eclamptic patients found a crystalline toxine.

Bouchardat studied the phenomena of poisoning produced by injected urine. Bocklisch confirms the absence of ptomaines in the pure cultures of the vibrio proteus, the Prior-Finkler bacillus of cholera nostras. Besides these, many others are giving their time and talents to this problem.

Brieger announces that he will continue his researches, and probably ere long we may hear of further important discoveries.

In the light of such revelations the endeavor of the physician will henceforth not be confined merely to the prevention of infectious diseases, or the destruction of the parasitic organisms, but also to the discovery of suitable antidotes to the poisonous compounds introduced into the system by their agency.—*Weekly Medical Review.*

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THE PUPIL IN HEALTH AND DISEASE.

BY DR. JOHN CHASE, DENVER, COLORADO.

[Read before the Arapahoe County Medical Society.]

Correct diagnosis depends on a thorough study of symptoms, and the physician who would prescribe intelligently must be able to correctly interpret the varied functions of the body in health and disease. I wish to-night to call your attention for a few moments to an organ which often serves as a guide-post to the intelligent observer, pointing him to disease of distant organs.

Too little attention has been given by the general practitioner to diseases of the eye, and too many of them are deprived of valuable aid in diagnosis by neglecting to observe the action of the eye in disease of remote organs. And now, to offset that remark, I wish to assert that most of the phenomena of the pupil which are made use of in diagnosis have been recorded and classified by the general practitioner, and to him, and not to the specialists, as yet, belongs the credit of reducing to anything like available form the clinical features of the action of the pupil. Not that the specialist has been idle, for the patient toil of the histologist and physiologist had already borne fruit, and a little light has commenced to shine on one of the dark corners of medicine. Leaving out of the present discussion the examination of the deeper structures of the eye, I wish to direct your thoughts to the action of the pupil in health and disease. Allow me to remind you that normally the pupil is a perfectly round aperture in a fibro-muscular tissue, the iris. The muscular tissue is divided into circular and radiating fibers. The former comprises the sphincter of the pupil and receives its nervous impulse from a branch of the "motor oculi." Many histologists deny the existence of the radiating fibers, but the weight of evidence is for their presence, and it is quite well established that they receive their nerve supply from the sympathetic. From this it can readily be seen that *contraction* of the pupil may follow direct stimulation of the motor oculi or paralysis of the sympathetic, and that *dilatation* of the pupil may result from stimulation of the sympathetic or paralysis of the third nerve. Contraction of the pupil also occurs, 1, when the retina or optic is stimulated; 2, when the eyes are accommodated for near vision; 3, in the early stages of poisoning by chloroform and alcohol, and in nearly all stages of poisoning by opium, arsenic and some other drugs; 4, in deep sleep; 5, after local application of myotics. *Dilatation* of pupil occurs, 1, when stimulus of light is withdrawn from the eye; 2, when the eye is adjusted for distant vision; 3, in dyspnœa, during powerful irritation of the sensory nerves, during violent exercise, during poisoning by atropine and allied drugs; 4, after local application of *mydroline*.

Two antagonistic forces work upon the pupil: One, through the motor oculi as an efferent and the optic as afferent tracts, is reflex in nature; the other, "tonic" in nature, with the cervical sympathetic as the afferent channel. These two forces are readily acted upon and interfered with by diseases at a distance from the eye, and the pupil acts as an index of the condition, but great care is necessary to correctly translate the indication. The pupils should be examined as to (1) equality in size, (2) size in ordinary light, (3) mobility, (4) shape.

To successfully apply to systemic diseases the actions of the pupil we must first exclude all pathological changes due to disease of the eye itself, remembering as well that myosis, or extreme contraction of the pupil, may be caused by various drugs,

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such as eserine or pilocarpine, and that mydriasis is often the result of a local application of cocaine or atropine. In iritis the pupil will often react but sluggishly, and may be tied by adhesion to the lens, either partially or completely. In another large class of cases the pupil is dilated, owing to amaurosis, and it must not be forgotten that an increase of intra-ocular tension from any cause produces dilatation of the pupil. Outside of these local causes, the pupil is influenced by the condition of the general system, and it is among these cases that is found the clinical advantage of a study of the pupil. I confess to considerable disappointment in looking over the literature of the subject to find, not only a diversity of opinion, but a direct antagonism among those who have investigated closely. At present, however, nearly all agree upon one or two propositions, which will serve as a basis for further work. Whatever depresses the cerebro-spinal system, or *excites* the ganglionic system causes mydriasis; and we find *myosis* whenever the ganglionic system is depressed or the cerebro-spinal irritated. Clinical theories, then, are quite well supported.

To mention the action of the pupil in all the general diseases of the body, where it is subject to change, and to give the reason of its action, would be but to give a pathological account of them all, and so we will content ourselves with a mere enumeration of a few of the more prominent ones. Dilatation of course occurs in paralysis of the third nerve, and this in turn may be the result of meningitis, morbid growths near the nerve, periostitis at base of the skull, or involving the sphenoidal fissure, or syphilis. *Myosis* often follows obstinate constipation or irritation of digestive tract, and mydriasis occasionally occurs in disturbance of the cerebral circulation.

Apoplexy at the base of the brain causes at first dilatation, followed in the reaction by contraction of the pupil. Basilar meningitis, on the contrary, causes, first, contraction and then dilatation. In hysteria the pupil usually contracts at the commencement of the attack, and later, dilates.

Locomoter ataxia may often be ushered in by a partial paralysis of the muscles of the eye, often only the internal muscles being affected. The most frequent variety is loss of the reflex action of the pupils, while the associated action remains. By this is meant that the pupils remain stationary when shaded and exposed to light, but contract and dilate when the accommodation is called in play. This phenomenon is known as the "Argyll Robertson pupil." This is one of the most valuable of the early symptoms of locomoter ataxia. Its weakness lies in the fact that as yet we do not know how frequently it may occur in healthy persons,or those without subsequent spinal disease. But enough,perhaps,has been said to indicate the line our study should pursue. If the action of the pupil can give us any definite intelligence of pathological changes in remote organs it is unfortunate that we can not fully read its meaning in all cases, and bring to our aid in diagnosis an ally so readily seen and interrogated.—*Denver Medical Times.*

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THE PUPIL AS A GUIDE IN THE ADMINISTRATION OF CHLOROFORM.

It is always difficult to determine the exact moment in which a patient is sufficiently under the influence of chloroform for an operation to be proceeded with. The sign of conjunctival reflex action, which is usually relied upon, is very variable and often misleading. Mr. Henry J. Nelson formulates the following conclusions as a guide in this respect (*British Medical Journal*) :

1. The effect produced by chloroform on the pupil is at first dilatation, varying in degree and duration, then contraction as the narcosis becomes profound, and dilatation again when the sensibility is returning. If the administration be still continued, with the pupil strongly contracted and motionless, the pupil will also dilate, but in this case more suddenly and completely, and will be coincident with a state from which it will be difficult or impossible to resuscitate the patient. This latter is the dilatation of asphyxia.

2. So long as the pupil dilates in response to excitation by pinching, etc., the patient is not sufficiently narcotized for the operation to be proceeded with, unless the latter is slight and does not require complete anæsthesia.

3. When the pupil becomes strongly contracted and immobile, no more chloroform should be given until it begins to dilate again. If, then, further anæsthesia be required, a little more chloroform should be given till the pupil again contracts.

4. The occurrence of sickness causes dilatation similar to, but more sudden than, that which happens when sensibility is returning, and the efforts of vomiting have the effect of arousing the patient.

The watching of the respiration and the pulse, which are doubtless the best indications of the effect produced on the individual by chloroform, and, therefore, of vital importance for safe administration, does not in many cases furnish evidence of the state of sensibility, in regard to which he holds the observation of the pupil to be of greatest assistance. The sign usually relied on, namely, the insensibility of the conjunctiva, is by no means a satisfactory test, for in many cases conjunctival anæsthesia is established long before the patient can be said to be under the influence of the drug. By observing the pupil, the administrator of chloroform can tell at once when the effect of the drug is on the wane, because the pupil then begins to dilate slowly. Noticing this, he can, by the administration of a few drops more chloroform till the pupil contracts again, prevent the occurrence of struggling and interruption of the operation. In this way he can keep the patient in the state most suitable for the satisfactory performance of the operation without narcotizing him more than is necessary. The amount of chloroform required to maintain a state of anæsthesia is much less than that required to put a patient under its influence several times, and as it is admittedly a dangerous drug, the less administered the better, especially in operations of long duration. And by allowing the patient partially to recover, one runs the risk of the occurrence of sickness and vomiting, which is always an awkward, and often a dangerous accident. In the absence of such a guide as the observation of the pupil, the chloroform is likely to be given in a rather haphazard way, dosing the patient till narcosis is profound, perhaps too much so, then interrupting the operation till the danger is averted by arousing him, or waiting until signs of feeling, such as struggles or a cry of pain, give indication for more chloroform.

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The observation of the pupil also furnishes a fair indication of the effect produced by chloroform, its size bearing a constant relation to the state of the blood pressure. In the experiments on dogs the blood pressure in the carotid artery was recorded on charts, and it was found that contraction only occurred when the pressure had fallen considerably, and, on removal of the chloroform, dilatation only took place when the pressure had risen to a certain height. As reduction of the blood pressure was pronounced by the committee of the British Medical Association to be one of the chief dangers in chloroform administration, the presence of a sign by which the occurrence of that important condition can be recognized must be of practical value.—*The American Medical Digest.*

WORD-BLINDNESS.

In his "Treatise on Practical Medicine," published in 1838, Gendrin speaks of patients "who find it impossible to read, but who can write by a sort of memory of the movements of the fingers necessary to trace the words; when once the letter is written, the patient is no longer able to recognize it." An almost identical description is given by Trousseau, in a clinical lecture, of a form of aphasia first described and named as a distinct species by Kussmaul in 1877, and called by him *word-blindness* (Wortblindheit).

Charcot, in his last volume on "Diseases of the Nervous System," sums up the details of sixteen observations, of which one had been carefully studied by himself; these cases have all appeared in the medical journals the past few years. The following, in substance, are Charcot's conclusions: In general, the onset of this form of aphasia has been sudden, and attended, at first, with a certain degree of right hemiplegia, which soon disappeared. During the first few days there is almost always a little motor aphasia, which vanishes later, the word-blindness alone remaining. There are, however, exceptions to this, and, in a remarkable case, originally reported by Gueneau de Mussy, in Galezowski's *Journal Ophthamologique*, the word-blindness made its appearance isolated from all other complications of a paralytic kind. It is true, however, that a right-sided hemiplegia soon followed.

Visual troubles have been somewhat vaguely mentioned in connection with a certain number of cases. The patient whose case was reported by Westphal (*Zeitschrift für Ethnologie*, 1874), and the patient who was the subject of Charcot's description, had well-marked hemianopsia. So, also, with Gueneau de Mussy's patient.

A peculiarity of typical cases is that when the subjects of word-blindness make efforts to read a book or manuscript, they are obliged to trace out the letters and words with their fingers before they can obtain any understanding of what they are endeavoring to read. The ideas imparted by these movements of the fingers appear to be indispensable to give value and precision to the vague motions furnished by the visual images; in other words, the patient can only read by writing. In Charcot's patient, these digital movements, which were so necessary to supplement the sight in obtaining the recognition of words, were instinctive; in no other way, in fact, could the visual memories be recovered.

Charcot gives the result of three autopsies—one pertaining to a patient of M. Déjerine, another to a patient of M. Chauffard, the third to a patient of MM. Heilly and Chantémesse. These three observations perfectly agree in one point—

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the predominant lesion was found to be in the inferior parietal lobule, with or without participation of the angular gyrus and the first temporal convolution. In cases in which there was lesion of the latter convolution, the verbal blindness was found complicated with word-deafness. Charcot finds reason to conclude that the lesion on which verbal blindness depends has for its seat the inferior parietal lobule, with or without participation of the angular gyrus. The existence of the lesion in those parts of the cortex which cerebral physiologists have, with very general unanimity, fixed upon as the visual perceptive center, easily explains the hemianopsia which characterized several of the cases. As for the precise alteration by which verbal blindness is determined, we are still dependent on conjecture, although there is reason to believe that the primary vascular lesion is generally a plugging (thrombosis or embolism) of the Sylvian artery, which furnishes branches to Broca's convolution, the seat of motor aphasia, and to the regions where verbal blindness and hemianopsia seem to have their location. The lesion of these arterial branches is the primary fact, and the atrophy or softening of the cerebral tissue the consequence.

Gueneau de Mussy, who had an opportunity of studying a remarkable case, which is treated in his usual thorough and philosophical manner in the last volume which he published, proposed to substitute for the name *word-blindness* (*cécité verbale*), and the appellation *aphasic amblyopia*, which Galezowski had bestowed on this affection, the term *asémiognosie optique* (optical asémiognosia); that is, absence of the knowledge of signs. This term seemed to De Mussy more exact than that of *word-blindness*, for there is really no *blindness* present in the ordinary acceptation of the word, and the patient has lost the comprehension not only of words, but of letters. "In adding to the word *asémiognosia* the adjectives of visual or optic, acoustic or tactile, we may," says this writer, "express the different varieties of this intellectual trouble, or their combination." The term is a good one, though too cumbersome, and is not likely to supplant that originally proposed by Kussmaul.

To conclude, all studies thus far made in this department of cerebral physiology testify in favor of the division of the memory into several forms, which correspond to the impressions furnished by the different senses; "and it seems very probable that each of these forms, is in relation with a distinct department of the cerebral substance which is the material condition of the formation of these sensorial memories, of their conservation, and of their transmission without."—*Boston Medical and Surgical Journal.*

EXTIRPATION OF THE LARYNX.

Dr. F. Donaldson, Jr., in a letter from Berlin, in *Medical News,* says:

The surgical wards of the Friedrichshain Hospital are under Hahn, who is considered by many to be a greater surgeon than Bergmann. And, indeed, the purpose of this letter is to describe his (Hahn's) last successful operation for extirpation of the larynx. This operation is at present much discussed here in connection with the case of the Crown Prince, about which one hears so much gossip and so little that is reliable. And the German physicians and surgeons, though differing, are at heart one in their sweeping condemnation of Morell Mackenzie. It is currently reported here that from the time he was called to the case, up to a few weeks ago, no German was allowed to examine the Prince's throat; and thatth is was not even permitted to Langraf, who accompanied his highness to England, and remained with him until September 15th.

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Much comment has also arisen from Mackenzie calling Krause in consultation, as it is claimed that he does not represent Berlin medicine.

Again, Virchow now declares that he never said that the growth was *not* malignant; only that the *piece* sent him was not. However this may be, the growth is now said to be cancer, and medical Germany rejoices in the triumph of German diagnosis, and declares that the radical operation should have been performed at first, as was advised by Bergmann, Gerhardt, Tobold, etc. But then comes the question, "How far is this operation justifiable? Does it tend to prolong life?" I have before me Hahn's last two papers on the subject:

"Extirpation of the Larynx," and "The Results of Extirpation of the Larynx for Carcinoma," also the record of his 18 operations. The detailed record of those of Bergmann I could not get.

These figures are valuable, for they enable me to give a complete history of this operation till to-day. They are, moreover, entirely reliable, having been kindly given me by the distinguished professor himself.

There have been 103 partial and total laryngectomies done to date, with 21 recoveries. These figures, however, must not be taken as absolute; for in many we have no record beyond that of their supposed recovery at the time the case was reported.

We can obtain a fairer idea of the success of the operation in question by an examination of Hahn's record.

Professor Hahn has classified his operations as follows:

	No.	No. living.
I. *Total* extirpation of larynx, on account of carcinoma and sarcoma	10	1
on account of stricture	2	2
II. *Partial* extirpation for cancer	4	3
for stricture	1	1
III. *Partial tracheal* extirpation on account of cancer	1	
Total	18	7

Here, then, we have a total of 7 recoveries in 18 operations. In the partial operations the record is very good; for, as will be seen, we have here a record of 4 recoveries out of 5 operations. I had the pleasure of seeing the only surviving case of *total* extirpation. The patient is now seventy-five years of age, and was operated upon seven years ago. A very beautiful result; the old man having quite a respectable voice, and one can understand every word he says. Professor Hahn does not consider the operation a dangerous one, provided it is performed *early*, and the *cancer* shows no tendency to a *soft* variety.

In the Crown Prince's case, as is known, it was proposed to do a partial extirpation, and, if we can judge anything by the above figures, his chance of surviving was very great. The distress of the German people at his critical condition is very deep, for the Crown Prince is greatly beloved; and I am told that Bergmann had received three letters, from different men, begging that he should take their healthy larynx, if such a thing was possible, and transfer it to the Prince—for they would gladly die to save his life.

Two partial laryngectomies have been done here in the last month: One by Bergmann, upon a healthy man of about forty years, whose larynx had been involved for two months only, and who died a few days after the operation. The second was by Hahn, upon whose invitation I was present at the operation.

The patient was a fine-looking fellow of thirty-six. The cancerous growth, of one and a half years standing, had destroyed the left vocal chord. He was operated upon exactly one month ago. He did well from the first, and is now rapidly recovering. I had the pleasure of seeing him a few days since, sitting up and able to swallow liquid food.

The operation was rapidly performed under perfect antisepsis; the only thing calling for special mention is the use of a

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large tracheotomy tube,* wrapped with iodoform-gauze. This is of a size which completely fills the lumen of the trachea, and absolutely prevents the entrance of blood into the lungs, besides enabling chloroform to be administered.

The other subject of general discussion here is, or was, the announcement of the discovery of the *bacillus of cancer* by a young man, Scheurlen, an assistant of Leyden.

Scheurlen brought forward the results of his investigation on Monday last at the *Verein für Innere Medicin.* Of course, all medical Berlin was present, and the paper was listened to with great interest, which eventually gave place to greater disappointment. Scheurlen is only twenty-five, and graduated last spring from the University. The tremendous importance of this subject —a cancer bacillus—justifies a *résumé* of the latter's paper, the text of which comes to me this morning in the *Berliner klinische Wochenschrift.* Briefly: He took twenty carcinomas from various sources, and as a vehicle for pure cultures he first used the serum from a pleurisy. This was coagulated in sterilized tubes after Koch's method, and vaccinated with the "cancer milk" from the original cancers—and in three days occurred different changes indicative of the development of bacilli.

From each of ten tumors twenty vaccinations were made, and seven were successful. Microscopic examination of these showed a peculiar bacillus and spores, which, under sufficient power showed movement. The bacilli colored with Gram's method, but only the ends. The spores colored with nitric acid and water only. He claims that no other bacilli and spores have the same form or movement, or color in the same way. The bacilli were found eight times out of ten when colored after Gram's method.

When cultivated from the serum in agar-agar, then bacilli appear in ten hours, the spores after ten days. A first coloring of these spores with fuchsin aniline, and afterward with violet or blue, makes a very striking picture.

In gelatine, the growth of the bacillus is very slow.

Direct cultivation from the tumors in agar-agar or gelatine, gave six results from seventy cultures. Two potatoes gave infusion of peptones. From cabbage, after twelve to twenty-four hours, he got the characteristic microbes.

The mammary glands of six dogs were injected with cultures from potato, or agar-agar. In four days there were circumscribed hardness and swelling of the glands. The tumor was removed from two of the dogs, and microscopic examination showed considerable cell proliferation, with large granular epithelioid cells, among which moving bacilli spores could be seen. Finally, he claimed to have discovered the cause—*i. e.*, the bacillus of cancer.

On this claim the criticisms have been very severe. But it is only fair to await his further investigations.

*An inferior tracheotomy was done.

THE MEDICAL CORPS OF THE NAVY.

We are glad to observe that the attention of Congress is likely to be called before long to the necessity of increasing the attractiveness of the naval service for medical men. As matters are now, either the vacancies must go on increasing in number or the standard of requirements must be lowered to let in an inferior class of men. Whichever of these results ensues, the navy must suffer in consequence.—*New York Medical Journal.*

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THE ACTION OF DRUGS ON THE KIDNEY.

The action of drugs on the circulation and secretion of the kidney is a subject as interesting as it is comparatively little known. A brief and valuable contribution to the subject was made by Dr. C. D. F. Phillips, of London, to the Ninth International Medical Congress, and published in the *Lancet* of November 12, 1887. The experiments were made on cats and dogs. The results arrived at may be summarized as follows:

The effects of caffeine citrate, in half-grain doses: The *blood-pressure* is first lowered, and is then raised, both effects being of short duration and slight, especially the rise of pressure. The *heart* showed first a diminution in the force of the beats, followed by a slowing, with beats of markedly increased force. On the *kidney* caffeine causes at first contraction, lasting two or three minutes, and accompanied by diminution or even arrest of secretion; this is followed by expansion, that lasts, after a one-grain dose, more than half an hour sometimes, the flow of urine being at the same time trebled. That the effects on the kidney cannot be due to the changes in the general blood-pressure, is shown by the fact that they do not occur simultaneously.

The effects on the general blood-pressure are slight, and last only a few seconds, the effects on the kidneys being measured by minutes.

Ulexine, the new alkaloid obtained from the seeds of the common gorse, acts in a similar way to caffeine. The objection to it is that its diuretic action is maintained only by doses that would either kill or produce violent convulsions. Like caffeine, it produces first a constriction and then an expansion of the renal vessels, with diuresis. It differs from caffeine, 1, in being more powerful; 2, its effects are more transitory; 3, repeated doses of caffeine injected rapidly cause only contraction of the kidney, not followed by expansion. A similar excess of ulexine causes expansion only, without contraction. Other substances that cause expansion of the kidney are dextrose, urea, acetate and chloride of sodium, and probably all constituents of the urine. More numerous are the drugs causing constriction of the kidney. Digitalin causes contraction in doses of $\frac{1}{10}$ gr., which persists for as much as half an hour. While it is difficult to say if digitalis is a true diuretic, or only exerts its effects through the heart, the urine is not diminished during the contraction of the kidney, as is the case with caffeine, but it is generally increased. The explanation probably lies in the effect on the general blood-pressure, digitalin raising and caffeine lowering it.

While spartein acts similarly to digitalin on the heart, general blood-pressure, and renal vessels, it causes a great diminution of urine; and its so-called diuretic effect, in disease, is due to improvement of the general circulation. The chief action of strophanthin and apocynëin is on the heart muscle, and they produce little or no effect on the peripheral vessels. Turpentine, adonidin and barium chloride produce marked renal contraction without diuresis. From the above it is seen that "reputed diuretics more commonly produce contraction of the renal vessels than expansion. Further, that expansion is either slight, as by acetate of soda; or, if large, as by citrate of caffeine, it is only produced by small and initial doses. The powerful action of alexin on the respiratory mechanism is a great drawback to its use; one-sixth of a grain was used in our experiments, but one-twelfth of a grain would completely arrest respiration. Then, again, such drugs as produce contraction of the kidney cannot be bracketed together, since,

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though they all have the same effect on blood-pressure, digitalin alone has an obviously diuretic effect." The flow of urine is not so much dependent on blood-pressure as on the rate of the blood-flow in the renal vessels. "It is necessary also to remember that although such drugs as strophanthin produce a great increase in the force of the cardiac beats, yet the heart is very much slowed, so that it is possible that the amount of blood sent into such an organ as the kidney in a given time may remain the same; whereas, such a drug as digitalis, producing a rise of blood-pressure and a contraction of the kidney vessels, may cause an increased quantity of blood to pass through those vessels, and thus it acts as a diuretic. Inasmuch as spartein has not a marked diuretic action, we must also assume that digitalin has some peripheral action on the secretory apparatus of the kidney." Dr. Phillips concludes his paper by calling attention to the value of the plethysmographic method of experimentation in regard to the action of drugs on the circulation.—*Journal of The American Medical Association.*

RENAL STONE AND ITS DIAGNOSIS.

Since the operation of nephrectomy was first established by Simon, 1869, there have been, according to Gross, two hundred and thirty-three cases reported, with a mortality of 44.63 per cent. The records of the later work of surgeons in this line no doubt give better results than are indicated by a consideration of all cases, including those operated upon when the technique was less perfectly understood.

An operation apparently much more brilliant in results than nephrectomy is that of nephro-lithotomy, first performed by Mr. Henry Morris in 1880, for removal of a renal calculus. This has now been done over twenty times, with a mortality of only eight or ten per cent.

It seems, therefore, as if, by the help of modern renal surgery, kidney-stone could now be treated with satisfactory results. In a recent number of the *Practitioner*, Mr. Jordan Lloyd, of Birmingham, calls attention to some views of his own regarding this matter. One trouble, he thinks, in the surgical treatment of renal lithiasis, is that the diagnosis is quite as often made incorrectly as otherwise. In twenty-five instances kidneys have been "explored" for supposed renal calculus without any stone being found. The operators in three cases have not been deterred by the trivial fact of a false diagnosis, but have taken out the kidneys just the same. The kidney, like the ovary, has to pay its tribute to the mad frenzy of the modern record-making surgeon.

Mr. Lloyd thinks that fewer mistakes will be made, first, after the knowledge of clinical symptoms is more complete, and, second, when present misconceptions of the anatomy of the renal pelvis are corrected.

As to the latter point, he claims to have demonstrated, by casts taken from human kidneys, that the pelvis is an utterly different arrangement to what the text-books would lead us to believe; and that, instead of its being a "funnel-shaped membranous sac," chiefly located in the organ's interior, it really consists of a cluster of branching tubes; so that the procedure of exploring the kidney's interior, by means of a finger introduced into the pelvis through an opening in the kidney-substance, is practicable only in dilated kidneys, and is absolutely impossible when we are examining the interior of the viscus in anything approaching a normal condition. Mr. Lloyd has not yet found a healthy human kidney into the primary pelvic tubes of

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which he could introduce his index-finger. The precise anatomical arrangement of the ureter and pelvis is stated to be as follows: "The ureter as it approaches the kidney enlarges from its normal caliber—about that of a No. 10 English catheter—until it measures from one-third to half an inch in diameter, and immediately on entering the hilum it breaks up into two, or sometimes three, primary tubular branches, varying in diameter from a No. 10 to a No. 20 English catheter, and measuring from a half to one and a half inch in length. These in turn give off secondary tubes, smaller in size—some less than a line in width—which end in cup-shaped calyces. Sometimes tertiary branches, still smaller in caliber, shoot off from these secondary tubes to end in calyces. With such a conception of the structure of the kidney's interior, many of the occasional difficulties with regard to symptoms, prognosis, and treatment of renal calculus are made more easy to understand.

Mr. Lloyd contributes a method of reducing the number of "missed calculi." It consists essentially in cutting down on the kidney by a lumbar incision. A long tenotome is then thrust through the kidney into the lowest calyx. Through this opening is passed a child's bladder-sound, and the pelvis thoroughly explored.

The leading symptoms of renal stone, as given by the author in question, are as follows:

"Pain of a dull, heavy, dragging character, constantly located in one loin, sometimes shooting down the course of the ureter and along the spermatic cord to the testis, and always increased by exertion, is fairly diagnostic of stone; but, unfortunately for our art, the symptoms of disease are rarely true to type, their manifestations are capricious, and their inconsistencies are manifold.

"Pain may be present in both loins, and it then becomes very perplexing; or it may be referred to other and distant parts, so that the lumbar trouble may be altogether uncomplained of.

"It may be brought on by an injury. Much importance is attached to percussion of the region over the kidneys. The patient should stand upright, and the blow should be a sharp one. When a calculus is present the patient will complain of a stabbing pain, caused by the blow."—*The Medical Record.*

THE PATHOLOGY OF OLD AGE.

A work of unusual interest in many respects is one recently published by Dr. Émile Demange, of Paris, upon the pathological anatomy and clinical history of old age. Dr. Demange has had unusual opportunities for studying senility in its various phases in the Hospital for the Aged, at Nancy. His pathological observations include more than five hundred autopsies.

Like most popular French scientists, Dr. Demange delights in reducing things to a formula. In the present case the dominating idea of the book is that the changes of senility are due to disease of the blood-vessels, and that the arteries make us old. In his five hundred cases there was always vascular disease, at least in the smaller vessels. Its characters were a proliferation of the endothelium, thickening of the middle muscular coat, and proliferation of the external coat—in fine, a "fibrous endo-peri-arteritis," tending to narrow and close the vessel's lumen.

The sclerosis thus produced tends to radiate from the blood-vessels, and causes wasting of the parenchyma. Such is the view of Demange.

Charcot, on the other hand, attributes the wasting to insufficient nutrition, through partial closure of the vessels. In the

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larger vessels atheroma takes place through the obliteration of vasa vasorum by arteritis. In the heart there is first an endo-peri-arteritis of the coronary arteries, consequent sclerosis of the cardiac muscle, atheroma of the endocardium and valves, and finally hypertrophy and dilatation, due to the peripheral obliteration. This compensatory hypertrophy of the senile heart has been described by Charcot and others. The signs of this senile hypertrophy are not always especially characteristic; indeed, in old people the heart is one of the best of the organs. Owing to the atrophied and emphysematous lungs, and to the more rigid thorax, the blood of the aged is poorly oxidized, and has more of a venous character than in earlier life; it coagulates more easily; the corpuscles and the hæmoglobin diminish, while cholesterin and urea increase. The blood is more toxic in quality, therefore.

The central temperature of the aged, contrary to general belief, is not much different from that of early life. The digestive organs are affected in varying degrees with atrophic change. The mucous membrane of the stomach and intestines is white, thin, and glossy, and its arteries atheromatous. The liver is small and sclerotic, while the kidney can hardly be distinguished by the naked eye from the cirrhotic or gouty kidney.

Similar atrophic and fibrous changes affect the system throughout. They are all due primarily, according to Demange, to the vascular disease. This lessens the nutrition, the cells atrophy, sclerosis follows, or, still more often, the sclerosis radiates from the vessels and encroaches on the parenchyma, compressing the cells and causing their atrophy.

To the question, What causes the arterial disease? Demange answers that it is the irritant effect of an excess of products of dis-assimilation circulating in the blood, a vice of metabolism. But as this excess of irritants comes from the tissue-cells, we find that senility, after all, is due to that loss of balance between assimilation and dis-assimilation which is part of the great biological law of life and growth. We must grow old; it is registered in the protoplasm of the cell from the moment that life was imparted to it.—*The Medical Record.*

THE USE OF WATER AT MEALS.

Water, as forming so large a portion of the human body, should occupy an important place on our diet list, and the vexed question as to when to take it and at what temperature is discussed in the *British Medical Journal.*

Opinions differ as to the effect of the free ingestion of water at meal times, but the view most generally received is, probably, that it dilutes the gastric juice and so retards digestion. Apart from the fact that a moderate delay in the process is by no means a disadvantage, as Sir William Roberts has shown in his explanation of the popularity of tea and coffee, it is more than doubtful whether any such effect is in reality produced. When ingested during meals, water may do good by washing out the digested food and by exposing the undigested part more thoroughly to the action of the digestive ferments. Pepsin is a catalytic body, and a given quantity will work almost indefinitely, provided the peptones are removed as they are formed. The good effects of water, drunk freely before meals, has, however, another beneficial result—it washes away the mucus which is secreted by the mucous membrane during the intervals of repose, and favors peristalsis of the whole alimentary tract. The membrane thus cleansed is in a much better condition to receive food and convert it into soluble

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compounds. The accumulation of mucus is specially well marked in the morning, when the gastric walls are covered with a thick tenacious layer. Food entering the stomach at this time will become covered with this tenacious coating, which for a time protects it from the action of the gastric ferments, and so retards digestion. The tubular contracted stomach, with its puckered mucous lining and viscid contents, a normal condition in the morning before breakfast, is not suitable to receive food. Exercise before partaking of a meal stimulates the circulation of the blood, and facilitates the flow of blood through the vessels. A glass of water washes out the mucus, partially distends the stomach, wakes up peristalsis, and prepares the alimentary canal for the morning meal. Observation has shown that non-irritating liquids pass directly through the "tubular" stomach, and even if food be present they only mix with it to a slight extent. According to Dr. Leuf, who has made this subject a special study, cold water should be given to persons who have sufficient vitality to react, and hot water to the others. In chronic gastric catarrh it is extremely beneficial to drink warm or hot water before meals, and salt is said in most cases to add to the good effect produced.—*The Weekly Medical Review.*

RADICAL CURE OF HERNIA.

Sir William Stokes, of Dublin, reports in the *British Medical Journal*, December 3, 1887, three cases operated upon by the following method: After exposing the sac by the usual herniotomy incision, and dissecting it away from the spermatic cord, it is ligated in two places and divided between. The sac is then seized with forceps and twisted until resistance is felt, as recommended by C. B. Ball.

Two silk sutures are then introduced, each passing through the pillars and walls of the canal, nearer the inner than the external ring, and each transfixing the twisted sac.

These sutures are brought through the skin one inch from the margins of the wound and tied in button fashion. The skin is united by superficial suture.

Mr. Kendal Franks, of Dublin, recommends an incision on a higher plane, but in the same direction, than the inguinal canal, and closure of the internal and external rings by buried sutures of silver wire. Those for the internal ring are passed through the external oblique, Poupart's ligament, the internal oblique and the sac, and out through the conjoined tendon and external oblique on the opposite side of the canal. Two wires are used. A third wire closes the external ring.

Forty-one operations for radical cure of hernia are reported by Mr. A. E. Baker. The operator uses silk for suture in preference to catgut or kangaroo tendon. His method is to ligate and divide the sac, leaving the scrotal portion in position, then to invaginate the ligatured stump and suture the pillars. A case of strangulated femoral hernia containing an ovary and fallopian tube, operated upon with removal of these structures and suture of the sac, is reported to have been followed by complete recovery.

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THE NEW YORK CANCER HOSPITAL.—The New York Cancer Hospital, which was formally opened this week for the reception of patients, is the only one of its kind in this country, and bids fair, with the means to the end of treating the most dreaded of all diseases, to mark an era in the history of public institutions in this city. Desirably situated, handsomely built, and thoroughly equipped as it is, it gives a reasonable promise of great usefulness. With the objects, not only of affording relief for a large class of sufferers, but of stimulating research and perfecting skill, it certainly lays claim to the heartiest good wishes of every lover of humanity, and the best encouragement to every scientific student of our noble art. It is not fair to assume that because cancer is now, as a rule, incurable, that we may not yet find some remedy as efficacious for its successful treatment as is bark for intermittents and mercury for syphilis. At least we should be tireless in our endeavors to make such a realization possible. The Cancer Hospital, dedicated to such high purposes, modestly and earnestly appeals to the profession of this country for aid and encouragement. * * * —*Medical Record.*

COLOR-BLINDNESS A BRAIN AFFECTION.—According to our scientific cotemporary, *Nature*, Professor W. Ramsay urges, in a recent issue of the Proceedings of the Bristol Naturalists' Society, that the particular defect giving rise to color-blindness lies, not in the eye itself, but in the brain. Certain persons, he points out, are incapable of judging which of two musical tones is the higher, even when they are more than an octave apart. Yet as such persons hear either tone perfectly the defect is not one of deafness. He accordingly argues that in such persons the brain is at fault, and thence proceeds to the assumption that it may be equally true that the inability to perceive certain colors is not due to a defect in the instrument of sight by the eye, but to the power of interpreting the impressions conveyed to the brain by the optic nerve. If this is the case the problem is no longer a physical one, it falls among those with which the mental physiologist has to deal.—*Medical Press and Circular.*

THE DANGER OF KEEPING DOGS.—One of the dangers resulting from keeping dogs in dwelling houses is the risk of disseminating the ova of the *tænia echinococcus.* The possibility of the transmission of this dangerous insect is too generally overlooked, but if the dog play with the children, the latter often allow themselves to be licked, and in this way the ova may be transferred. In dry weather the ova may be wafted about by the wind, and so find their way into the body. In Iceland, where everybody possesses half-a-dozen dogs, 28 per cent. of which are affected with this tænia, hydatid cysts are very common. As the process of development is a slow one, the source of the infection may, and probably will, escape attention, and in any case would only be thought of when the evil had been done.—*Medical Press and Circular.*

THE NEW YORK QUARANTINE.—The State Board of Health of New York has forwarded to the Governor of the State a lengthy report on the New York Quarantine Station, which concludes as follows: "It is the unanimous opinion of those posted on such matters, that it would be difficult to imagine a worse state of affairs than now exists at the quarantine station. It is hard to realize in this age of civilization that the harbor of the city of New York should be so inadequately provided with facilities for the prevention and extinction of an epidemic. The State Board of Health does not consider it within its province to pronounce upon the actions of the quarantine authorities.—*Medical News.*

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BOOK-REVIEWS.

ON THE ANIMAL ALKALOIDS. THE PTOMÄINES, LEUCOMÄINES AND EXTRACTIVES IN THEIR PATHOLOGICAL RELATIONS. By Sir WILLIAM AITKEN, Knt., M. D., F. R. S. Pp. vi and 61. 1887. Philadelphia: P. Blakiston, Son & Co. Chicago: W. T. Keener.

The aim of this litte work is, perhaps, best shown by a portion of the author's preface. He says: "The following pages owe their existence to the necessity of finding a subject suitable for a lecture introductory to the course of instruction at the Army Medical School at Netley." "Speaking generally, it may be said that the investigations which underlie the most important practical work of the military medical officer, alike on land and sea, relate especially to the causation of diseases, and with a view of their prevention; and in carrying out such investigations, the time appears to me to have come when it is desirable to open up new lines of thought and of practical departure in pathology, which may lead us to entertain broader, or at any rate less narrow, views than those we have been accustomed to entertain as to the origin of some diseases." * * * "So much has been already done by experiment and research in the past twelve or fifteen years, that such a concise summary as I have here attempted to give may show the bearing of the results and their value, as illustrating the pathology and the origin of some diseases.

"It is further desirable, if possible, to get rid of the term 'cause' altogether, as applicable to any particular disease. Our text-books, as yet, have been unable to specify and establish any *single* thing as the final cause of any disease. There is no disease I know of which acknowledges a *single* cause. It ought rather to be our business to find out the many and ever varying factors or conditions which, as antecedents, combine to produce disease; and while we must acknowledge the influence of many physiological agents in aiding and abetting these factors, we must mainly look to the physiological agencies within our own bodies during life as competent to bring about many forms of disease."

The author first considers the *Elaboration of Alkaloids from proteid substances* (Ptomäines and Leucomäines); and also of *azotized uncrystallisable substances* (extractives) and their toxic properties.

He then considers the *Pathology and Symptoms of Poisoning* by the extractives and by the animal alkaloids—poisoning by the accumulation of normally elaborated but toxic products, and the origin in this way of constitutional diseases.

Much of the address is based upon the results of the investigations, as the author states, by MM. Gautier and Peter, and Drs. A. M. Brown and Lander Brunton. He says: "May we not, therefore, recognize in these affections the evidence of poisoning by a toxic alkaloid, or alkaloid of putrefaction; and that certain nutritive ingesta may give rise to the formation of such toxic alkaloids?" and then quotes from Dr. A. M. Brown: "Hence it is no great stretch of scientific license for us to recognize or trace in pathology a very natural series of morbid phenomena or ailments starting from the *botulism* of the Germans up to Asiatic cholera."

The address contains useful and practical suggestions, and its careful perusal will be found to be interesting.

SYPHILIS. By JONATHAN HUTCHINSON, F. R. S., LL. D. With eight chromo-lithographs. Pp. xii and 532. Philadelphia: Lea Brothers & Co. Chicago: A. C. McClurg & Co.

This small volume is one of the *Clinical Manuals for Practioners and Students of Medicine*, issued by Messrs. Lea Brothers & Co.

The author of this manual is so well known, and justly held in so high esteem by the medical profession, both of Europe and America, that whatever emanates from his pen commands attention, for it is always safe to assume that it will not be found to be wanting in merit. He has given so much attention to the subject of syphilis as to have made him a recognized authority on that disease. His name is probably permanently connected with that deformity of the teeth known as *Hutchinson's teeth*, one of the marked evidences of inherited syphilis, which he so accurately described as an almost pathognomonic symptom of that affection. In his preface to this manual he says: "The literature of syphilis is encumbered with ill-founded opinions and untrustworthy facts." "Our patients often have reasons for not telling us the exact truth, and, still more often, they are not themselves cognizant of it." "None of the symptoms of the disease are pathognomic, and with the best desire in the world to be candid, both patients and their advisers may give us misleading evidence. Such being the sources of error, it becomes wise to distrust all isolated facts, however definite they may appear to be," etc., etc. Such words, from such an authority, should have great weight with the large number of physicians who are called upon to treat this disease in isolated cases, where the statements of patients cannot be implicitly accepted for the reasons given in this pre-

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face, and should emphasize the necessity for the greatest care in diganosis, treatment and prognosis.

The colored plates are intended to represent:

I. Syphilitic Choroiditis.
II. Erratic Chancres on the Fingers and on the Eyelid.
III. Vaccination Chancres.
IV. Chancre of the Tongue, and Papillary Growths on Tongue.
V. Chancre of Nipple, and Syphilitic Disease of Tongue.
VI. Teeth of Inherited Syphilis.
VII. Different Stages of Syphilitic Keratitis (Inherited).
VIII. Syphilitic Disease of the Nails.

These chromo-lithographs are fairly well executed, and are not of the kind sometimes seen in medical works, which are effective in misleading.

The character of the work and the price merited better binding than that in which it is issued, and which can scarcely be said to be in keeping with the manner in which this long-established house is accustomed to issue books.

FUNCTIONAL NERVOUS DISEASES—THEIR CAUSES AND THEIR TREATMENT, WITH A SUPPLEMENT ON THE ANOMALIES OF REFRACTION AND ACCOMMODATION OF THE EYE, AND OF THE OCULAR MUSCLES. By GEORGE T. STEVENS, M.D., Ph. D. Pp. xiii and 217. New York: D. Appleton & Company. Chicago: A. C. McClurg & Company.

The author says: "This memoir * * * is now presented in the English, as it was then in the French language," when it was awarded a prize by the Royal Academy of Medicine of Belgium. Some changes and some additions, which are noted, have been made in the present edition.

It deals with a practical subject, which may be said to be a sort of connecting link between neurology and ophthalmology, since many of the reflex nervous troubles are connected, either as cause or consequence, with abnormalities of the eye or its appendages. Recognition of this fact, in the last few years, has led to the relief of much suffering from functional disorders originating in errors of refraction and defects of accommodation. Whether the positive and well-known views of the author of this book regarding the influence of the action of the muscles of the eyeball be accepted in their entirety or not, it is due him to say that he has been an industrious investigator of the subject, and that his work has contributed to a better understanding of it. His book is a fair exposition of his views, and it is no small compliment to him that so eminent a body of medical men as the Royal Academy of Medicine of Belgium should have awarded the work such recognition.

Asthenopia, like neurasthenia, is often a result, following from one or more causes, so that careful investigation is generally necessary to discovery of the origin of it. With the tendency of the human mind toward what are regarded as *hobbies*, it becomes the physician to be on guard against acceptance of the extreme views sometimes held by enthusiasts; but it is well in our efforts to avoid the Scylla of enthusiasm that we should not fall into the Charybdis of indifference. Even if this work does make claims which some may be slow to accept, its suggestiveness will serve a good purpose, and all will be glad to accord him whatever credit may properly attach to his claim of priority in recognition of the causes and their influence in these cases of asthenopia and reflex troubles if longer time should lead to full acceptance of his views by the medical profession. Whatever view may be taken of the advanced views of the author, the book will probably serve a good purpose.

HEALTH LESSONS. A PRIMARY BOOK. By JEROME WALKER, M. D. Pp. 194. 1887. New York: D. Appleton & Company. Chicago: A. C. McClurg & Company.

"In this little book, the aim has been to teach health subjects to young children in a truthful and interesting way, and by somewhat different methods than those usually employed."

The aim is a commendable one, and it is sought to accomplish that object at an important time in life. One can but wish that the effort might be successful. If children could be made to understand more about their bodies and the requirements of them, and the influence exerted by environment, the resulting tendency would be in the direction of better mental and physical health, and life would be entered upon under more favorable circumstances. With better health, there would be less temptation in the later years of life to the use and abuse of nervous stimulants. A glance at the titles of the seventeen chapters of which the book treats, in a unique manner, will give a fair idea of the field the author seeks to cover. The mode of presentation of the subjects, and the illustrations given, are likely to attract the attention of children, and to interest them.

I. Our Bodies.
II. What our Bodies Need.
III. Air and Sunlight.
IV. Breathing, Voice, Air-Supply.
V. Use and Abuse of Food.
VI. How Food Becomes Blood.
VII. What to Eat.
VIII. Wear and Repair.
IX. Warmth and Clothing.
X. Cleanliness.
XI. Work and Play.
XII. Our Framework.
XIII. How we Move.
XIV. Rest
XV. The Brain and the Nerves.
XVI. The Senses.
XVII. Accidents, Injuries and Poisons.

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MANUAL OF CLINICAL DIAGNOSIS. By OTTO SEIFERT AND Dr. FRIEDRICH MÜLLER. Third Edition. Revised and Corrected by Dr. FRIEDRICH MÜLLER. Translated by WILLIAM BUCKINGHAM CANFIELD, A. M., M. D. With sixty illustrations. Pp. xi and 173. New York and London: G. P. Putnam's Sons. Chicago: W. T. Keener.

In the preface to the first edition (1886) of this manual, the authors say: "We have endeavored to supply a want by giving, in an epitomized form, the different methods of examination." "We have also endeavored to consider the practical needs of the student and physician by noting only what is reliable, and omitting everything self-evident and of secondary importance."

In the preface to the second edition (1886) it is stated that "a number of improvements and additions have been made, and among them it seemed necessary to add some new illustrations, especially to the chapters on blood and urine."

In his preface to the English translation of the book (1887) it is stated that "it has been brought down to the latest acquisitions of science, thus representing the most advanced views."

The work is divided into fourteen chapters on *The Blood, The Temperature, Organs of Respiration, The Sputum, Circulatory System, The Pulse, Digestive and Abdominal Organs, The Urine-Producing System, Transudations and Exudations, Parasites* (animal and vegetable), *The Nervous System, Analysis of The Pathological Concrements, Metabolism and Nutrition.* There are also added a *Table of the Weights of The Human Body*, and a Dose Table.

The illustrations, with the exception of some of the tracings of the pulse, are good. It is well printed, on good paper, and is a useful little book.

A MANUAL OF THE PHYSICAL DIAGNOSIS OF THORACIC DISEASES. By E. DARWIN HUDSON, JR., A.M., M.D., late Professor of General Medicine and Diseases of the Chest in the New York Polyclinic; Physician to Bellevue Hospital, etc. One volume. Octavo. 162 pages. Nearly 100 illustrations. New York: William Wood & Company. Chicago: W. T. Keener.

This handbook, by the late Dr. Hudson, designed originally for the use of his followers in the New York Polyclinic, is presented in its present form, enlarged and amended to meet the requirements of practitioners and advanced students.

The regional anatomy of the chest, the methods and instruments of precision used in its exploration, the acoustics of normal and abnormal chest-sounds, and the normal and pathological condition upon which these depend, are briefly, but comprehensively, reviewed. The intra-thoracic diseases of the respiratory tract are presented very conveniently for reference in tabulated synopses, embracing under each the definition, causes, symptoms, physical signs, diagnosis, prognosis and treatment.

The normal and abnormal states of the heart are similarly treated, and a short tabulated list of cardiac organic and inorganic murmurs is added.

In so small a work, upon such a comprehensive subject, it is impossible to make more than a brief allusion to many important items, and much that is of interest must necessarily be omitted. This little volume will be found useful by many as a convenient manual of the clinical aspects of intra-thoracic diseases.

A MANUAL OF ORGANIC MATERIA MEDICA. Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms, for the use of Students, Druggists, Pharmacists and Physicians. By JOHN M. MAISCH, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Third Edition. With two hundred and fifty-seven illustrations. Pp. xv, 531. Philadelphia: Lea Brothers & Co. Chicago: A. C. McClurg & Co.

The intention has been to produce a text-book embracing in a concise form, the essential physical, histological and chemical characters of organic drugs, for use in connection with lectures in colleges of pharmacy. That the work has rapidly reached its third edition is evidence of appreciation, and none will question the judgment of the author, who is well known in connection with the National Dispensatory, concerning the requirements of these students, and of pharmacists generally. An epitome often suffices to recall the details of the lecture. The illustrations are numerous and excellent.

It is, however, not so well adapted to the needs of students of medicine, for the reason that the medical properties of drugs are but superficially and sometimes inaccurately described, and officinal preparations with their doses are omitted.

W. E. C.

DRUITT'S SURGEON'S VADE-MECUM. A MANUAL OF MODERN SURGERY. Twelfth Edition. 1887. Octavo. Pp. 985. With three hundred and seventy-three illustrations. Philadelphia: Lea Brothers & Co. Chicago: A. C. McClurg & Co.

In its new edition this work is much enlarged, and radical changes have been made in arrangement of the text, as well as in the treatment of the subject-matter.

The editor has incorporated most of the newer

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ideas of pathology. The pages on diagnosis constitute a new and excellent feature.

Many of the illustrations are new and graphic, being drawn from life.

In the opening chapters bacteria are classified, and their causative relation to disease discussed.

The pathology and classification of infective diseases are those of the latest investigators.

In short, the book is modern, clearly written, well arranged, and much more complete than most manuals.

It will be a valuable addition to the students' list of text-books. H. H. F.

THE VEST-POCKET ANATOMIST. (Founded upon "Gray.") By C. HENRI LEONARD, A. M., M. D. Thirteenth Revised Edition. Eighty-five illustrations. Pp. 154. Detroit: The Illustrated Medical Journal Company.

The fact that this small handbook of anatomy has reached a thirteenth edition would indicate that there has been a demand for even so condensed a work on anatomy.

The illustrations are fairly good copies of those given in Gray's Anatomy, and the size of the book makes it convenient for the student.

THE URINE. MEMORANDA, CHEMICAL AND MICROSCOPICAL, FOR LABORATORY USE. By J. W. HOLLAND, M. D. Illustrated. Pp. vi and 43. Philadelphia: P. Blakiston, Son & Co. Chicago: W. T. Keener.

This small manual, designed "For Laboratory Use," will be found to be of convenient size for that purpose.

It first gives the *composition of healthy urine*, which is followed by examination of morbid urine. After instruction as to the method of collecting the urine to be examined, especially that secreted during twenty-four hours, when accurate results are desired, directions are given for the various tests. These are accompanied by cuts, which are quite accurate, showing the different kinds of apparatus in making these tests, and seventeen illustrations of characteristics of morbid urines.

The paper and press-work are good, and the binding is as good as could be expected in a book that costs but fifty cents.

BOOKS RECEIVED.

Hydrophobia—An Account of Pasteur's System. By Reynaud Suzor, M. B., C. M. Edin., M. D. Paris.

The Urine. Memoranda Chemical and Microscopical for Laboratory Use. By J. W. Holland, M. D.

Manual of Clinical Diagnosis. By Dr. Otto Seiffert and Dr. Freidreich Müller. Third Edition. Translated by William B. Canfield, A. M., M. D. Berlin.

On the Animal Alkaloids—The Ptomaïnes, Leucomaïnes and Extractives, in their Pathological Relations. By Sir William Aitken, Knt., M. D., F. R. S.

Lectures on Diseases of the Brain. By William R. Gowers, M. D., F. R. S.

The Principles and Practice of Medicine. Volume II. By Charles Hilton Fogge, M. D., F. R. C. P.

Transactions of the American Surgical Association. Volume V. Edited by J. Ewing Mears, M. D.

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, A. M., M. D., LL. D.

Six Hundred Medical Don'ts. By Ferd. C. Valentine, M. D.

The Throat and its Diseases. By Lenox Browne, F. R. C. S., E.

A Manual of Organic Materia Medica. By John M. Maisch, Phar. D.

Text-Book of Therapeutics and Materia Medica. By Robert T. Edes. A. B., M. D.

The Study of History in American Colleges and Universities. By Herbert B. Adams, Ph. D.

Health Lessons—A Primary Book. By Jerome Walker, M. D.

Anatomy, Descriptive and Surgical. By Henry Gray, F. R. S., etc.

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ITEMS.

How Scarlet Fever Comes to Michigan.

The Michigan State Board of Health has received information from Dr. Sifton, health officer of Sutton's Bay township, which illustrates, in a striking way, how this country gets contagious diseases from the old countries. October 2, 1887, a family arrived in Sutton's Bay, Leelanaw county, direct from Norway. The family came over in the S. S. Ohio, of the Inman line, reaching New York September 30. Scarlet fever was on board the steamer during the passage, one child dying before the landing, and "several more were sick in the same way." One child of this family was taken sick with scarlet fever the day after reaching New York. The family, however, proceeded over the New York Central and the Lake Shore & Michigan Southern to Michigan; then over the Detroit, Grand Haven & Milwaukee, and the Grand Rapids & Indiana to Traverse City; then to Sutton's Bay. Another child of the family has since come down with the disease. The family had a certificate, signed by the surgeon of the steamer, that they had been protected by vaccination against small-pox; so they passed without detention the quarantine authorities at the port of New York, after they had been exposed to a contagious disease which causes more deaths by far in this country than small-pox causes.

A Decision as to Costs in Suits for Malpractice.

For a considerable time a suit has been pending against a physician of Boston, founded on a charge of malpractice involving some operative procedure for removal of the ovaries. It has been tried four times. The first three trials resulted in disagreement of the juries. The fourth trial recently terminated in a verdict for the defendant. But the item of most interest to members of our profession is, that at the opening of the last trial the counsel for the defense applied for and obtained a decision of the court, that all the costs of the four trials should be paid by the plaintiff, in case the final verdict of the jury should be in favor of the defendant. The example thus furnished in this trial is worthy of the careful consideration of all judges before whom charges of malpractice are brought, a large proportion of which have no other foundation than a desire to extort money from the defendant sufficient to secure a good fee for the prosecuting counsel.—*Journal of The American Medical Association.*

Diabetes Mellitus.

Professor C. W. Purdy says: "In the medicinal treatment of diabetes mellitus, if the disease be of true nervous origin, preference is given to bromide of arsenic in the form of Gilliford's solution, which may be given in doses of from five to ten drops three times daily in water, after food. The average dose necessary to influence favorably the disease has been found to range at about eight or nine drops. If, at the end of about three weeks, sugar be still present in the urine, the dose should be increased to ten drops."

The above solution should not be confounded with Clemens' solution of arsenic bromide, as the dose of the latter ranges much smaller—two to five drops.

The health officers of Baltimore blame the imperfect quarantine at New York for an outbreak of diphtheria in the Italian quarter of that city. It will be well if the country next summer does not have to place the responsibility for an outbreak of cholera in the same quarter.—*Chicago Evening Journal.*

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R. B. Hamill, M. D.

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W. A. Hammond, M.D.

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The Medical Journal and Examiner.

VOLUME LVI. FEBRUARY, 1888. NUMBER 2.

REPORT OF A CASE OF PRIMARY MYOMA OF THE BROAD LIGAMENT, AND A TABLE OF SEVENTEEN COLLECTED CASES.

BY DR. BAYARD HOLMES.

[Read before the Gynæcological Society of Chicago.]

I have the pleasure of presenting a specimen of a fibroid tumor, resembling those of the uterus, and calling your attention to a small group of neoplasms termed by Sänger "primary desmoid tumors of the broad ligament."

1. The patient from whom this specimen was removed was a well-developed woman, 35 years old. She had been twice married. By the first marriage she was without issue. About a year after the second marriage she gave birth to a child that is now three years old. At this confinement there was a laceration of the cervix uteri, which was operated upon in February, 1886. The pelvis was thoroughly examined at that time, while the patient was under the anæsthetic, and nothing abnormal detected. Following the operation there was a slight retroversion, which was treated with a pessary for a month or two. Toward the last of May, 1886, this pessary was removed by the patient herself. The menstruation was scanty in June, and she consulted her physician, who concluded from an increased size of the uterus that it was pregnant, and refrained from further examination. In July again the menstruation was normal, and an examination at that time first discovered a small tumor, about the size of a black walnut, just behind the uterus. The patient was put in the knee-chest position and the tumor pushed back almost out of reach. It was movable, and free from the uterus. The tumor had all the appearance of a displaced, enlarged ovary, and it was so considered at the time. Repeated examinations during the following months revealed its rather rapid growth and its increasing immovability. A dull fluctuation was repeatedly detected. At last the inconvenience to the patient became so great that she decided for herself that it should be removed.

The patient had never had any pelvic inflammation, and the puerperium was unattended by sepsis.

I had the privilege of making the necessary antiseptic preparation antecedent to the operation. Every scientifically indi-

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cated preliminary precaution in the preparation of the room, the instruments, the patient, and the operators, was taken. The room was large and airy, having three south windows and one opening to the west. The house was a frame dwelling which had been in use many years. The floors were carpeted throughout the house. I had the carpet removed from the operating room, which was on the second floor, all the woodwork thoroughly scrubbed, and the walls freshly papered. There was not sufficient time to lay a new floor, and the old one was too much worn to be made clean. I had it covered with a carpet of thick, white duck. After this had been tacked down, all the woodwork and the necessary furniture and this carpet were scrubbed with a 1:1000 sublimate solution. Just before the operation the temperature was raised to 90° F., and a pound of carbolic acid evaporated in the room.

The operation was performed on the morning of the 5th of June, 1887. There were present the operator, Dr. J. W. Streeter, three assistants, and the nurse. Upon opening the abdomen, it was found impossible to bring the tumor in the line of the incision. It lay close to the laterally turned uterus, and occupied all the space in the right side of the pelvis. It was found impossible to move it in any direction more than an inch. Two-thirds of the tumor was visible, covered by smooth peritoneum, which was reflected backward and directly forward upon the walls of the pelvis. No ovary was found on the right side. The left ovary seemed perfectly normal. The tumor felt hard, elastic, and smooth. A transverse incision was made through its peritoneal covering, and the tumor carefully enucleated with dull instruments. There was very little hæmorrhage. The broad base from which the tumor was removed was then sewed through with a curved needle and strong silk. This was tied at every stitch. The peritoneal edges were trimmed off, turned in, and fastened with fine silk. The operation lasted two hours. During the following day the patient's temperature rose to 103° F., but it gradually fell to below 100° at the end of the second day. There was no other unfavorable symptom. The sutures were removed from the abdominal wound on the fourth day, and the second and last dressing applied to the abdomen. There was not a particle of suppuration at any time, nor any pain in the line of the abdominal cut, or in the region of the operation. There was just a show of blood on the vaginal tampon where it lay against the os uteri. The patient was somewhat troubled with borborygmus during the first week, and at the end of a month had an attack of gastro-enteritis. She has now regained her former health and strength, and has menstruated regularly and normally.

The tumor which I pass around has all the appearance of a uterine fibroid. It is almost perfectly spherical and smooth. It is about the size of a man's fist. The cut surface is smooth and white, with a few cavernous sinuses, filled originally with a clear, serous fluid. A piece of the fibrous capsule is still attached to one side of the tumor. The drawings which I present were made from stained sections, with a one-tenth inch immersion objective, and an inch eye-piece. The nuclei resemble very much those of unstriped muscle-fibers. There is very little, if any, pure fibrous tissue to be found in the body of the tumor. Near the blood vessels, the nuclei are ovoid or spherical, and very large. These are, no doubt, the round cells noticed by Kleinwächter (49) in small uterine fibroids. They seem to be well-nourished cells, undergoing rapid mitosis, or indirect cell division. These large, round cells are easily distinguished from tranverse sections of the long nuclei by their size and arrangement.

This tumor, then, is leiomyoma—that is, the myoma which originated from a matrix of smooth muscle tissue.

Whatever may be the cause of the development of a neoplasm, it is doubtless

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necessary that it should have a matrix of at least as highly specialized a grade as that presented by the tumor itself.

Such a matrix is found in the uterus, in the uterine ligaments, in the base of the ovary, in the walls of the bladder, and in the abdominal wall.

(*a*) A consideration of the history of the case shows conclusively that this tumor did not originate as a sub-peritoneal fibroid of the uterus. When first observed, it was quite a distance from the uterus, and freely movable from it in the pelvis. The pelvis was thoroughly examined under an anæsthetic four months previous to the appearance of the tumor and nothing found.

It does not seem possible that a fibroid of the uterus could be so completely displaced either by puerperal contraction, or by the traumatism it suffered at the operation in February.

There remain to be considered the possibilities of an ovarian or a ligamental origin for our tumor.

(*b*) We have four methods of demonstrating the presence of smooth muscle-fibres in the broad ligament—the embryological, the anatomical, the physiological, and the pathological. The uterine ligaments contain plain muscle-fibers, which are prolongations of the superficial embryonal layer of the uterus. These fibers extend through the ring into the mons veneris, and out on the abdominal wall to the *linea alba*, and up over the posterior wall of the bladder.

Anatomically, these smooth muscular fibers have been found and described by Rouget (14), Klebs (16), Henle (17), and Luschka (19). They are also mentioned in Quain's Anatomy.

They have also been assigned an important role in initiating labor (18). In examining the wall of cysts of the broad ligament, Spiegelberg (20) and Lawson Tait (21) have seen layers of unstriped muscular fibers three or four millimeters long. Other investigators have sometimes found and sometimes missed these bundles in the walls of parovarian cysts. There is, then, no doubt that a suitable matrix for the development of leiomyomas is found in the broad ligament.

Graetzer (26), investigating the origin of the tumors of the abdominal wall, has opened up all the possibilities of the origin of fibroid neoplasms in every part of the body. According to the theory of Cohnheim, there must be a matrix derived from the mesoblastic layer of the embryo. Thus the fibroids of the skin arise from *musculi erectores pili;* those of the æsophagus, stomach, intestinal canal, and prostate, from the plain muscular fibers of these organs, and those of the abdominal wall, from fibers going out from the uterus through the ligaments in the direction of their embryonal attachment.

Twelve well diagnosticated connective-tissue tumors of the round ligament have been collected by Sänger (2). These represent almost every possible theoretical position in which such a neoplasm could be found, namely, in the round ligament, in the pelvis, in the canal and outside the canal, in the walls of the abdomen, or in the *labia majora.*

Small fibroids have been occasionally found in the broad ligament. Virchow (9) has made such an observation. The tumor was as large as a bean, and so far removed from the uterus and from the ovary that no relation of origin to them could be considered. Such tumors have been thought by many investigators to arise from a displaced fragment of the ovary, or an accessory ovary.

If any doubt remained of the possibility of the primary origin of fibroid, or better, of desmoid, tumors in the broad ligament, the careful consideration of Cohnheim's post-mortem examination, reported by Freund (28), would remove it. He found on the posterior wall of the uterus and of the bladder, and between the leaves of the broad ligament, even to the outer end of it, numerous isolated myomas of all sizes, from a cherry to an apple.

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Sänger (1 and 2) has collected eleven cases of primary desmoid tumors of the broad ligament, which reached a considerable size. There are several observations by other authors which swell the number of observed cases to nineteen or twenty.

Then it is both possible and probable that our tumor arose originally from the broad ligament in which it was found. It is still necessary to show that it did not arise from the ovary.

(*c*) There are, at least, three reasons for thinking that it did not arise from the ovary, namely, the form of the tumor, the microscopical elements of the tumor, and its manner of attachment.

The fibroids of the ovary are simply hypertrophies of the connective tissue of the ovary, and therefore their contour is irregular and nodulated, and not smooth and spherical like ours.

Fibroids of the ovary are composed almost entirely of fibrous tissues, and unstriped muscle-fiber is rarely and sparingly found, while our tumor is composed almost, if not entirely, of plain muscle-fibers.

Fibroids of the ovary have been shown by Leopold (28) to be connected with the ligament by a long, simple pedicle, which does not include the tube. Our tumor lay deep and sessile in the pelvis.

It is not significant that a diagnosis of an ovarian tumor was made before the operation, as this has been repeatedly done by other operators in the case of solid tumors and cysts of the ligaments.

Neither does it matter that the right ovary was not recognized, as it is frequently melted down on the surface of large cysts and becomes almost unrecognizable through pressure atrophy.

I conclude after all these considerations that this is a true primary leiomyoma of the broad ligament.

A table is appended to this article, giving a synopsis of the eleven cases collected by Sänger (1 and 2), to which I have added six other cases. Three of these are from Freund (28), one is from Bantock, and one is from an unpublished case of Fenger, and the other is the case I have just described.

In only six cases was the true position of the tumor recognized before the operation, namely, Schmid's, Miculicz's, Freund's three cases, and Fenger's.

Cystic, cavernous, and sarcomatous myomas, as well as simple myomas, are represented.

The average age of the patients is about thirty-two years, the extreme being nineteen and forty-two.

It is probable that these tumors are not as rare as this limited number would indicate, but that in the advanced stage of growth in which they come to operation, the ovary becomes drawn out and lost on the wall of the tumor, which then seems to have arisen from the lost ovary. An earlier examination would perhaps have revealed their true position.

1535 Bowen Avenue.

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LITERATURE ON TUMORS OF THE BROAD LIGAMENT.

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TABLE OF SEVENTEEN COLLECTED CASES.

Observer.	Age of Patient.	Tumor recognised.	Symptoms.	Fluctuation.	Diagnosis before the operation.
1. Schetelig. Arch. f. Gyn., I., 259.	41 years. Multipara.	2 years.....	Tumor elastic. In general form spherical; in places irregular and hard. Above the symphysis a tympanitic zone. Uterus movable and normally located.	Fluctuation indubitable.	Ovarian cyst. Diagnosticated by another surgeon.
2. Schmid. Prager med. Wochens., 1878, No. 35, 260.	35 years. One Child.	1¼ years after delivery.	After previous peritonitic symptoms, rapid development in the right pelvic cavity of a movable tumor. Decendens uteri. Prolapse of the anterior vaginal wall.	Wanting....	Solid tumor of the right broad ligament. By internal examination both ovaries were recognized.
3. Miculicz. Wien. med. Wochens., 1879, No. 21, 261.	.....	.....	Periodical pain in the pelvis. For two or three years ascites present. Umbilical hernia since one year. Tumor freely movable, somewhat uneven, as large as a man's head.	Wanting...	Solid tumor of the broad ligament.
4. Gayet. Lyon Medical, 1874, No. 9, p. 273.	42 years. Multipara.	7 years.....	All the appearance of a simple ovarian cyst.	Present. Very pronounced.	Ovarian cyst with short pedicle.
5. Sänger. Arch. f. Gyn., XVI., 284.	19 years. One Child.	10 months.....	Failure of the menses to appear for seven months. Patient considered herself pregnant. Prolapse of uterus and vagina.	Present. Very pronounced.	Left side ovarian cyst.
6. Bardenheuer. Drainirung d. Peritonealhoehle. Stuttgart, 1881, S. 113-118 (in Hegar).	.....	....	A large tumor which was located deep in the pelvis and extended somewhat above it.	.....	....
7. Péan. (in Hegar).	.....	.....	....	....	....
8. Buschmann (operator, Billroth). Wiener Wochenschrift. 1880, No. 28.	24 years 4-para.	.....	Increase in the circumference of the abdomen for three years. Dull elastic consistency. The percussion dullness extended to that of the liver and spleen.	.....	....
9. Rydygier. Deutsche Zeitschrift für Chirurgie, XV., p. 279.	Multipara..	....	.....	Pseudo-fluctuations.	Solid pediculated tumor of the uterus.

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TABLE OF SEVENTEEN COLLECTED CASES.

Condition found at the operation.			Operation.	Anatomical diagnosis.	Result.	Remarks.
Pedicle.	Uterus.	Ovary.				
Long, somewhat thick; attached to the right broad ligament	Normal ..	Normal	.....	Cystomyoma teleangiectodes cavernosum ligamenti lati dextri.	No operation. Death from chronic peritonitis spreading out from local suppurative peritonitis.	Uterus free without any attachment to the tumor. Left ovary normal. Right ovary drawn up on the anterior, under surface of the tumor.
Thin. In necrosis.	Free, infantile.	Right ovary in necrosis wholly separated from the tumor. On the left ovary a pea-sized, pedunculated fibroma.	....	Fibro-sarcoma of the right broad ligament. Wgt. 16 lbs.	Pedicle dropped. Fever. Healing by first intention.	.....
Wanting.	Normal ..	Normal	.....	Fibroma of the right broad ligament. Tumor strongly edematous. Wgt. 10 lbs.	Pedicle dropped. Recovery retarded by secondary intra-abdominal hæmorrhage and abdominal abscess.	On the ovarian side of the tumor, arising from the right parovarium a small dermoid cyst.
Short and small.	Normal ..	The left ovary behind the anterior tumor edematous, beset with follicular cysts, free from the ligmentum latum. Right ovary apparently normal.	.....	Cystomyoma of the left broad ligament.	Attempted removal. Suturing of the residue of the cyst in the abdominal wall. Gangrene of the pelvic tissues. Death on the 14th day.	.....
.....	.....	.....	.....	Fibromyoma hydropicum Ligamenti lati sinistri. Double tumor. The anterior small, intraligamentous, the large one extra ligamentous, intraperitoneal and pedunculated. Wgt. 16 lbs.	.....	.....
.....	.....	.....	Laceration of the anterior wall of the rectum. Intestinal suture. Injury of a large parametrian blood vessel in arranging the drainage.	Intraligamentous myoma.	Death four hours after the operation from hæmorrhage.	.....
Short	.....	.....	Pedicle treated as an ovarian pedicle.	Medullary sarcoma of the broad ligament.	Death on the second day of peritenitis.	.....
None present.	Free without attachment to the tumor.	....	Vigorous hæmorrhage in separation from the peritoneum. The tumor had grown from the back side and turned forwards.	Retroperitoneal fibro-myoma, by which the kidney which lay in the pelvis was deformed. The sessile tumor lay between the leaves of the ligamentum latum. Wgt. 36 lbs.	Death from peritonitis on the fifth day.	The tumor was very vascular and gave the impression of a firm jelly-like tumor. It was covered with a very thin peritoneum
None ...	On the uterus, two subperitoneal tumors about the size of small apples.	Free	The tumor was raised out of its place without the aid of instruments and without the application of a ligature. The anterior leaf of the broad ligament was grown fast to the abdominal wall.	Fibromyoma between the leaves of the right broad ligament. The tissues were here and there colloid degenerated.	Recovery.....	.....

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TABLE OF SEVENTEEN COLLECTED CASES.

Observer.	Age of Patient.	Tumor recognized.	Symptoms.	Fluctuation.	Diagnosis before the operation.
10. Chimiaux. Arch. de Tocol. et des mals des femmes, Juillet 1880, p. 439.	32 years. Multipara.	....	The tumor grew steadily but without pain. It appeared to arise from the uterus. It moved with its movements. Remarkable developments in the course of a half year.	.....	Solid pediculated tumor of the uterus.
11. Schroeder. Sitzung der Gesellschaft f. Geburtsh. u. Gynaek. Berlin, June 8th, 1880. Berlin Klin. Wochensch., 1881.	.....	.....	..... "	.....	....
12. Freund; Gynaekologische Klinik, 1885, p. 289–293.	33 years. Multipara,	Recognized 5 years, walnut sized, somewhat uneven, solid, elastic, growing more backward, separated from two smaller cherry-sized tumors by a distinct groove. Uterus movable. Both sound ovaries easily recognized.	Pain in the pelvis several weeks after her first normal labor, protracted menstruation. The tumor grew slowly, but undoubtedly.	None..	Fibroid of the left broad ligament.
13. Freund. Loc. cit.	30 years. Nullipara.	.....	... .	.....	Double fist-sized myoma of the uterus and a tumor in the left broad ligament.
14. Freund. Loc. cit.	32 yrs. Sterile wife for ten years.	14 days after the removal of a subperitonal myoma as large as a man's fist, a plum-sized tumor of the left broad ligament was detected.	....	.....	Solid tumor of the left broad ligament which became as large as a child's fist, still separated from the uterus by a distinct furrow.
15. Bantock. The Brit. Gyn. Jour. X., Aug., 1887.	.....	Tumor recognized 9 months before operation, soon after the birth of the last child.	....	.....	Believed to be ovarian.
16. Fenger. Unpublished.	29 years. Multipara.	About one year.....	Caused little inconvenience, but aroused the suspicion of pregnancy.	None.....	Solid tumor of the left broad ligament. Separated from the ovary and uterus by a recognizable space, filling the pelvis and extending half-way to the umbilicus. Somewhat movable. Uterus and ovary separately movable.
17. Myself. (Operator Streeter.) In this article.	35 years. 1-para.	Tumor recognized 11 months before operation, when it was movable from the uterus.	....	Pseudo-fluctuations.	Tumor of the right ovary.

See also a report of a specimen exhibited by Dr. Constantine Goodell, Am. Journal of Obstet., Vol. X, p. 178, 1877.

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TABLE OF SEVENTEEN COLLECTED CASES.

Condition found at the operation.			Operation.	Anatomical diagnosis.	Result.	Remarks.
Pedicle.	Uterus.	Ovary.				
Present..	Free	Free	The tumor was attached to a pedicle which arose from the left broad ligament.	Cysto-sarcoma of the left broad ligament. Wgt. 12 lbs.	Death on the 13th day of peritonitis which certainly had arisen from an abscess in the neighborhood of the pedicle.	The tumor presented a trembling, soft mass, made up of wide-meshed tissues with fist-sized cavities within. No autopsy or microscopical examination of the tumor was made.
.....	....	.....	.....	Fibro-myomatous tumor.	.....	Discovery of the tumor, which was from the left broad ligament, during the removal of an eight-sided ovarian cystoma.
None.....	Movable..	Both Present. Sound.	Enucleation.....	Myofibroma cysticum intra-ligamentare. Weight 13 lbs. Prof. Cohnheim confirmed the diagnosis.	After the operation, there was a secondary hæmorrhage which was controlled by compression. Trismus and tetanus on the sixth day, in spite of which patient recovered and left the hospital after six weeks.	The ureter lay bare in enucleating the sessile tumor.
None.....	Free	Both present.	After enucleation of the myoma of the uterus, a tumor of the ligament, the size of a 5 mo. gravid uterus was removed. The peritoneal covering of the tumor was cut so that a continuous suture restored the relations of the parts to those of a normal ligament.	.....	....	The left ureter lay under the side of the tumor.
.....	.....	....	.....	.....	No operation..	....
None.....	Free	Both present.	Sub-peritoneal enucleation. Removal of diseased right ovary.	Fibroid of the right broad ligament. The tumor arose in the outer portion of the ligament beyond the ovary which lay on its inner aspect.	Recovery.....	Peritoneum freely movable over the surface of the tumor.
None.....	Free	Both present, healthy.	Enucleation, partial closure of the peritoneal wound. Drainage by means of a Miculicz drain introduced into the bottom of the unclosed peritoneal wound.	Fibroid of the broad ligament. Weight 4 lbs. The cut surface showed multiple nut-sized and larger fibroids melted down into one large and almost perfectly spherical tumor.	Death from sepsis on the third day.	The omentum adherent to the tumor over a considerable surface contained enormously enlarged blood-vessels (finger-sized) furnishing the principal blood supply of the tumors.
None.....	Free	Not found.....	Transverse incision through the broad ligament and enucleation of the sessile, immovable tumor.	Leiomyoma of the right broad ligament. Wgt. 10 ounces.	Recovery without complication. In perfect condition Nov. 28, 1887.	....

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A CASE OF TRAUMATIC CYST OF THE PANCREAS.

BY CHR. FENGER, M. D.,

PROFESSOR OF CLINICAL SURGERY, COLLEGE OF PHYSICIANS AND SURGEONS.

[Reported, with statistics, by A. Holmboe, M. D.]

Chester A. King, æt. 8, was admitted to Emergency Hospital October 6, 1887, with the following history: He had enjoyed good health up to recent illness. Eleven weeks ago he fell from a horse and sustained injury to his abdomen, showing a red spot over the umbilicus, and a similar spot over the processus spinosus of third lumbar vertebra. He complained during first eight weeks of intermittent attacks of pain, located in the region about umbilicus. About three weeks after injury a swelling appeared in epigastrium and has been increasing steadily since. After injury the patient lost appetite; his bowels were loose, irregular, and the fæces of a whitish, curdled appearance, according to his mother's statement. Vomiting had been a prominent symptom during the period from the time of injury until his admission into the hospital. He had been treated for typho-malarial fever.

STATUS PRÆSENS.

Patient is of normal size for his age, but thin and emaciated. Examination shows lungs and heart normal. In the epigastrium and upper half of mesogastrium is a round prominence caused by a tumor 7 inches in transverse diameter, 8 inches in longitudinal diameter. Percussion over the tumor is dull on the right side, continuous with the liver—dullness on the left side, reaching over the border of the ribs. Between the seat of dullness of the tumor and heart-dullness there is a tympanitic area from the ventricle. The circumference of abdomen at the end of xiphoid process, 24 inches; midway between this and the umbilicus, over the most prominent part of the tumor, 25 inches; at the umbilicus 23½ inches. After inflation of the bowel with Richardson's syringe the transverse colon is seen passing along and over the lower border of the tumor. The tumor moves with the respiration. There is transmitted pulsation from the aorta, but no expansion or bruit. Over the surface of the tumor is a feeling of fluctuation. The tumor is slightly movable from side to side.

Exploratory puncture brings out a syringeful of deep straw-colored, not perfectly clear, fluid of alkaline reaction, which contains a small number of red blood-corpuscles, but no other formed elements. The location of the tumor is in the median line behind the stomach, above the transverse colon—that is, in the region of the pancreas. Taken together with the microscopic character of its fluid contents, containing no other formed elements than a few blood-corpuscles, and finally its relation to a distinct trauma, made the diagnosis of a pancreatic cyst rather plausible. It was resolved to operate by laparotomy in two tempos, if the thickness of the cyst-wall would permit of such procedure. October 9, 1887, after the usual preparations for laparotomy, a longitudinal incision was made in the linea alba, about three inches long, midway between the umbilicus and the xiphoid process. After opening the peritoneal cavity the parietal peritoneum was stitched to the skin and the meso-colon transversum or ligamentum gastro-colicum was divided longitudinally and a few small vessels ligated. Beneath this was the glistening white smooth surface of the cyst-wall. This was united by a circular row of fine silk sutures, includ-

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ing a space about two inches long and one inch broad, to the abdominal wound. No cyst-fluid escaped along any of the sutures, and consequently the original plan of operating in two tempos was carried out. The wound-cavity was packed with iodoform-gauze, and antiseptic dressing was applied, held in position by an elastic bandage. The following day the temperature rose to 101.5° F., but came down to normal the evening of the same day and remained so. No other untoward symptoms followed this operation.

On October 16, a week after the laparotomy, the patient was again anæsthetized, and the cyst opened by Paquelin's cautery. The cyst-wall was of considerable thickness, almost one-fourth of an inch. About 40 ounces of thin, yellowish, semi-transparent fluid escaped. A large drainage-tube, over one-half inch in diameter and 9 inches long, was introduced to the bottom of the cyst, passing upwards and backwards toward the left side of the vertebral column, behind the stomach. No irrigation was used at the time of the operation, but heavy antiseptic dressing and an elastic bandage were applied.

The following day the temperature rose to 101° F., but became normal the next day and remained so. His bowels were regular before the second operation. After this, however, they did not move for five days, when an enema was given. Later on, the bowels again became regular. There was profuse discharge the first four to five days after the operation, after which time the discharge rapidly decreased in quantity. When leaving the hospital, November 9, the dressing which had been applied four days before was perfectly dry. At no time during the after-treatment was there any erosion or maceration of the skin surrounding the wound, although it was constantly in contact with the secretion from the cyst-wall.

The depth of the fistula at the time of leaving the hospital was three inches. The general condition of the patient was greatly improved.

In an article on Complicated Diseases of the Pancreas and their Surgical Treatment Dr. KARL HAGENBACH, assistant of Professor Socin, in Basel, has collected reports of fifteen cases of true cysts of the pancreas (*Deutsche Zeitschrift für Chirurgie*, December, 1887). Adding to these fifteen cases the reports of three cases operated upon in this country during latter part of 1887 (Bull, Fenger, Steele) we find, altogether, the following eighteen cases of cysts of the pancreas so far reported in literature:

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Literature.	Sex and Age.	Cause.	Duration.	Place of Development.	Symptoms.	Complications.	Diagnosis.	Method of operation.	Result.	Cyst-Contents.
1. Gross. Anatomical Museum of Boston Society for Med. Improvement, 1847, p. 174.	M. 40 years..	.....	13 years.....	Head of Pancreas.	Loss of strength, bloody stools, tumor in epigastr.	Icterus	.....	.....	.....	300-400 Grm. serous bloody fluid.
2. Salzer. Zeitschr. f. Heilk., 1886, Bd. vii, p. 11.	F. 42 years..	.....	12 years.....	Tail of Pancreas.	Growing tumor.	Icterus.....	Ovarian cystoma...	.....	.....	4,500 Grm. thick, slimy, grayish-brown fluid.
3. Bosemann. N. Y. Med. Record, 1882, vol. xxi, p. 46.	F. 41 years..	.....	7 years.....	Near the tail..	Pain in regio-iliaca, emaciation, swelling of abdomen on left side.	.....	Ovarian cystoma...	Extirpation of the pediculated cyst.	Healing in 38 days.	10 l.ters brown fluid.
4. Kulenkampff. Berl. klin. Wochenschr., 1882, 13 Febr., No. 7.	M. 39 years..	Trauma.....	6 months....	.....	Tenderness in epigastrium.	.....	Echinococci of the liver.	Incision (2 tempos), drainage.	Healing in 6 weeks.	1¼-2 liters clear fluid.
5. Dixon. N. Y. Med. Record, 1884, vol. xxv, p. 304.	M. 42 years..	.....	11 weeks.....	Head of Pancreas.	Sudden pain in epigastrium, vomiting.	Icterus.....	.....	Puncture and aspiration.	Death 5 weeks after operation.	Abt. 300 Grm. light-yellow, slimy fluid,
6. Senn. Journal of the American Med. Association, Sept. 26, and Oct. 3, 1885.	M. 19 years..	Trauma.....	5 weeks.....	Tail of Pancreas.	Pain, vomiting, emaciation, tumor.	....	Cyst of the pancreas.	Incision (1 tempo), drainage.	Healing in 7 weeks.	3-3½ liters slightly opalescent fluid.
7. Salzer. Zeitschr. f. Heilk., 1886, Bd. vii, p. 11.	F. 33 years..	.....	11 years.....	Tail and body of pancreas.	Backache, vomiting, tumor in epigastrium.	.....	Ovarian cystoma...	Extirpation of cyst.	Death 6 days after operation.	5 liters yellowish-brown, clear fluid.
8. Kramer. Centralbl. f. Chir., 1886, p. 23.	F. 16 years..	.....	Several weeks	.....	Abdominal pain, tumor in epigastrium.	.....	Echinococci of the liver.	Incision (1 tempo), drainage.	Healing in 4 months.	2 liters clear fluid.
9. Koetz. Guration ein Pankreascyste, Inaug. Diss. Marburg, 1886.	F. 36 years..	.....	8 years.....	Tail.....	Enlargement of abdomen...	.....	Ovarian cystoma...	Partial excision.	Death in 7 weeks.	2½ liters brown, thick fluid.
10. Kuester. Deutsche medic. Wochenshr., 1887, No. 10, p. 189.	M. 46 years..	....	6 months.....	.....	Periodical gastric pains, loss of weight, tumor under right costal arch.	.....	Cyst of the pancreas	Incision, tamponing, drainage.	Healing in 6 weeks.	2½ liters clear yellowish fluid.
11. Subotik. Allgem. Wiener medic. Zeitung, 1887, Bd. 32, p. 279.	M. 20 years..	....	8 years.....	.....	Colic-like pains, vomiting, tumor in epigastrium.	... .	Cyst of the pancreas	Incision (2 tempos), drainage.	Healing.....	2 liters turbid brownish fluid.
12. Riedel. v. Langenbeck's Archiv. f. klin. Chir., 1885, Bd. xxxii, p. 994.	F. 45 years..	... .	9 years.....	Tail and body of pancreas.	Tumor in epigastrium.....	.....	Ovarian cystoma...	Extirpation of the cyst.	Death 96 hours after operation.	10 liters brownish fluid.
13. Zukowsky. Wiener medic. Presse, 1881, No. 45.	F. 36 years..	....	2½ years.....	Tail.....	Tumor in epigastrium.....	.....	Ovarian cystoma...	Partial excision.	Death 10th day.	5 liters brownish fluid, albumen, cholesterine.
14. Thiersch. Berl. klin. Wochenschr., 1881, Bd. xvii, No. 40, p. 591.	M. 38 years..	.....	1 year.....	Tail.....	Took suddenly sick, tumor in region of the stomach.	.....	Abscess of abdom. wall	Incision (2 tempos).	.....	3 liters chocolate-colored fluid.
15. Gussenbauer. v. Langenbeck's Archiv. f. klin. Chir., 1883, Bd. xxix, p. 355.	M. 40 years..	... .	11 weeks.....	.....	Took suddenly sick with vomiting and gastric pain; emaciation, epigastric tumor.	.....	Cyst of pancreas...	Incision (1 tempo), drainage.	Healing in 12 weeks.	1,900 grm. grayish-black fluid.
16. Bull. N. Y. Medical Journal, 1887, Oct. 1, p. 376.	M. 45 years..	.....	10 months....	Tail (?).....	Sudden pain, vomiting, dyspnœa, loss of appetite, emaciation, stearrhœa.	Icterus, diabetes.	Cyst of the pancreas	Incision (2 tempos), drainage.	Recovery. (Death later from diabetes.)	118 oz. Dark brown fluid.
17. Fenger	M. 8 years...	Trauma.....	11 weeks.....	Tail	Pain in epigastr., vomiting, loss of appetite, emaciation, tumor in epigastr. region.	.....	Cyst of the pancreas	Incision (2 tempos), drainage.	Healing in 2 months.	40 oz. Straw-colored fluid.
18. * Steele.....	M.	.....	.....	Tail.....	Tumor in epigastrium.	... .	Cyst of the pancreas	.....	Recovery.....	....

* This case is not yet reported, which accounts for my meagre information concerning it.

From the above tabulated cases the following résumé may be drawn:*

There were eleven males and seven females.

Age from eight years (Fenger) to forty-six years (Küster).

Trauma was given as the cause in three cases (Kulenkampff, Senn, Fenger).

Duration from five weeks (Senn) to thirteen years (Gross). In Kramer's case the time has been indefinitely given as "some weeks."

Place of development is not stated in five cases; in two cases the head is given as the seat of origin; in eleven cases the tail.

As to symptoms, a certain suddenness of onset is noticeable in a number of the cases; otherwise, common gastric and intestinal disturbances seem to be most prominent. Location, relations, etc., of tumor has only in a limited number of cases been sufficiently characteristic to warrant a diagnosis of pancreatic cyst (Senn, Küster, Subotik, Gussenbauer, Bull, Fenger, Steele).

Icterus is mentioned as a complication in four cases.

Diabetes in one case (Bull).

Sixteen cases were operated, of which ten recovered and five died.

Methods of operating† are distributed with the respective results as follows:

Extirpation of the whole cyst: three cases with two deaths and one recovery.

Partial excision of cyst-wall, uniting the remainder with the abdominal wound: two cases with two deaths.

Puncture and aspiration: one case with one death.

Incision and drainage in one tempo: four cases with four recoveries.

Incision and drainage in two tempos: five cases with* five recoveries.

From the above figures it seems reasonable to conclude, as Dr. Senn stated in his monograph of 1885, that the operation to be recommended for cysts of the pancreas should be incision and drainage, and it seems to be a matter of little or no importance whether this operation is performed in one or two tempos.

Careful chemical analysis of the cyst-content has been made in several cases, showing the presence of tyrosin, leucin, mucin, serum-albumen, sodium, and potassium salts etc. The cyst-fluid has also proved itself able to digest starch, emulsify fat, etc., and thereby established its pancreatic origin. In Gussenbauer's and Senn's cases a digestion eczema was noticed around the abdominal wound. The quantity of the cyst-fluid varies from a pint up to several quarts. Blood in varying quantity is frequently found in these cysts. Küster considers the presence of blood characteristic, even for pancreatic cysts, when found in a cyst of the upper abdominal region (Hagenbach). In Thiersch's and Gussenbauer's cases, blood was prevalent to such an extent that Hagenbach considers it doubtful whether these two cases can, properly, be classed under retention-cysts, believing it possibly more correct to place them among hæmatomas. Senn, however, thinks it safe to classify them as hæmorrhagic retention-cysts.

* For further details, see original reports.

† Method of operating employed in Dr. Steele's case was incision and drainage; but if in one or two steps, I do not know. Recovery.

* Bull's case was operated July 19, discharged cured November 19, but died two week's later from diabetes.

327 North Wells Street.

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ILLINOIS STATE BOARD OF HEALTH.

ANNUAL MEETING, SPRINGFIELD, JANUARY 12–13, 1888.

The Eleventh Annual Meeting of the Illinois State Board of Health was held in Springfield on January 12 and 13, 1888. The Secretary presented the Quarterly Report and Annual Summary. In it he said, that in view of the very general interest which had been aroused throughout the country by the recent occurrences at the New York quarantine and the recent apparent danger of an immediate invasion of Asiatic cholera through Italian immigrants, it seemed proper to give that subject precedence in the Quarterly Report. A history of the introduction of the contagion into New York Harbor in the fall of 1887, and of the action of this Board in the premises, was given.

From this it seemed evident that the Board shares the general belief that sufficient care was not taken at the quarantine of New York regarding infected vessels (the Alesia and the Britannia), which arrived at that port during the autumn of 1887.

In this report the Secretary says, regarding public health and the immigrant: These occurrences and the correspondence thereon very opportunely illustrate and emphasize the position I have held and the views I have promulgated upon the subject of quarantine for many years. Illinois, through the authority vested in its State Board of Health, may be protected against the consequences of the lapses and defects of the coast quarantines; but at a wholly unjustifiable expense and a regrettable but necessary interference with transportation interests. No interior State should be compelled, in order to protect the health and lives of its citizens against foreign pestilence, imported through the seaboard cities, to maintain a State line quarantine, to inspect the passengers on railways from such cities, and otherwise to do, at great disadvantage and under very unfavorable conditions, what might much more readily, cheaply, and efficiently be done at the port of arrival. The Illinois State Board of Health has exercised its quarantine power only as a last recourse; and, when this exercise has been unavoidble, every effort has been made to adjust its inspections and other agencies so as to conflict as little as possible with the interests of commerce and travel. On the other hand, the railroad managements have always responded to the Board in the most amicable spirit, with an intelligent appreciation of the necessities of the situation and a ready extension of every facility in their power in order to accomplish the desired result with as little friction as possible.

But the question naturally arises: Why should the State of Illinois be put to this expense, and with what justice can her transportation agencies be subjected to this burden? It is not her own protection alone that is thus assured, but the protection of the vast region beyond her borders—northwest, west, and southwest—to which the great tide of immigration flows. Of the thousands of immigrants who enter the State annually—mainly through Chicago as the great distributing point—only a small portion remain as permanent settlers; but the diseases, contagious and infectious, as well as the moral, social, and mental wrecks of the whole number, are inflicted upon us in vast disproportion.

This consideration, however, is swallowed up in the larger view of the interests of the whole country, and the duty of the National Government to protect its borders from the invasion of foreign pestilence. And with regard to Asiatic cholera—what-

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ever may be true of small-pox, scarlet fever, or other contagious diseases—the events of the past few months only corroborate my conclusions; they have not modified, reversed, or added thereto. I repeat what I have so often said before, as a practical sanitarian accustomed to deal with conditions as they actually exist, to wit: That the only wise thing to do in respect of cholera is to resist the first beginnings. This country can be protected against the disease only by its absolute exclusion. The arguments against quarantine which may be valid enough for Great Britain do not apply here. The conditions which obtain are widely different. There is no great immigration movement into that country such as complicates the social, political, and sanitary problems of this country. The only large bodies of people arriving in England after a long voyage are those on the troopships; but these are constantly under medical and sanitary surveillance, and the necessary measures may be enforced under the direct control of government.

The vast hordes of immigrants constantly arriving in this country present a sharp contrast in every respect. The voyage across the Atlantic is long enough to increase the susceptibility to contagious diseases under the conditions which obtain in the steerage; the sanitary supervision is defective; reports of the ship's officers are untrustworthy, as is again shown in the case of the Britannia; and the methods of the immigrant carriers—whose object is to land the immigrant at his ultimate destination with as little delay as possible—are such as to greatly imperil the interior.

The immigrant and his effects are hurried through the port of arrival, and the first intimation of danger to an interior community is too often the outbreak of a virulent contagion. I have shown this to be true with respect to small-pox, in my paper entitled "Immigrant Introduction of Small-Pox into the United States." (See Fifth Annual Report of the Illinois State Board of Health, pp 329–342. Also report of the National Board of Health, 1882.) During a period of nearly a third of a century I have traced the reappearance of small-pox in Chicago in every instance to first cases directly introduced by immigrants; and the first great small-pox epidemic—that of 1880–83—I have shown to be due to the same cause in ten different States and in over two hundred different instances.

The familiar citation of the epidemic outbreaks of cholera in 1873 in Ohio, Minnesota and Dakota—caused by the unpacking of the infected household goods, clothing, etc., of immigrants—might be supplemented by similar instances which came under my own observation during that year, while Sanitary Superintendent of Chicago. The first cases in that city were in three different families, who had received immigrants from Europe direct through the port of New York. (There was no cholera in New York City in 1873.) Members of these families were attacked by the disease within a short time after the arrival of these persons. The fact that the immigrants themselves escaped, threw the search for the origin of the cases into other directions; and I vainly sought to establish a connection between these outbreaks and the places then infected on the Mississippi River. It was not until after such connection was positively disproved that the right clue was discovered as above mentioned.

In view of the subsequent developments in the case of the Alesia and Britannia it can only be ascribed to great good fortune that the country escaped a similar result from her immigrant passengers. The number of cases which occurred after these were taken in charge by the quarantine authorities and the prolonged duration of the outbreak are conclusive proof that they were infected, not only in person but in belongings. If there had not been cases of the disease actually on board when the vessel arrived these infected belongings—baggage, dunnage, household effects, etc., packed up in the cholera districts of Italy

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—would have been passed through the port and rapidly carried into the interior, there to liberate the cholera poison whenever the goods were opened, as was the case in 1873 at Carthage, Ohio, in Kandiyohi County, Minnesota, at Yankton, Dakota, and in the city of Chicago.

While this demonstrates the necessity for the thorough disinfection of all this class of articles coming from any country infected with such a transportable contagion, the cases of cholera which continued to occur among the steerage passengers of the Alesia and Britannia so long after arrival equally demonstrate the necessity for detaining such passengers during the recognized period of incubation of the disease. Given the existence of cholera in Europe, experience shows the impossibility of determining when or how the immigrant passengers may become exposed to infection during a voyage.

The terrible epidemic of 1848–50, which swept over the continent from the Atlantic to the Pacific, is attributed to the arrival at New Orleans in December, 1848, of the emigrant ship Swanton. This vessel cleared from the port of Havre on the 31st of October; and nine days later the New York—another emigrant ship—cleared from the same port for the port of New York. Havre was at the time declared free from cholera, and both vessels cleared with clean bills of health. According to Hirsch cholera did not invade France until the first months of the following year, when it first showed itself in the seaports along the northern coast. The steerage passengers on these vessels, however, were mostly emigrants from Germany, into which country—according to the same authority—cholera was brought from Russia in the early summer of 1848.

On the 24th of November, being then fifteen days out from Havre with all well on board, the New York, in north latitude 42° off the United States coast, encountered a very cold wind which, in the language of the captain, caused "a general overhauling of baggage for warm clothing." Twenty-four hours later the Swanton, a thousand miles south of the New York (in latitude 25° 47′) was "visited by a very hot south-east wind; such a one," says her captain, "as I had never felt before." Cholera broke out on the New York November 25, and on the Swanton November 26. The former vessel arrived in New York Bay December 2, having lost fourteen of her passengers, and the latter reached New Orleans December 11, having had thirteen deaths.

There is no escape from the conclusion arrived at by Dr. Alonzo Clark, after a critical consideration of the various theories advanced to account for the outbreaks on these vessels: "It seems to me far more probable that the poison was lurking in the baggage of these passengers, and that the emergencies which required the opening of unventilated trunks and packages, let loose in each of these ships that poison brought from the infected regions of Germany."

Had this unpacking of baggage occurred later in the voyage the vessels might have arrived without any suspicion of infection; and under the present system of local maritime quarantines, they would at most have been detained only long enough to disinfect the vessel, baggage, etc. Manifestly, since it is impossible to disinfect the individual, who may already have received the seeds of contagion into his system, the only security for the country is in the detention —*for the full period of incubation* after arrival—of all European immigrants so long as Asiatic cholera continues to exist in any part of Europe.

PROHIBITION OF IMMIGRATION.

The alternative to these precautions is in the prohibition of all immigration from cholera infected districts during the existence of a cholera epidemic. This might be done by giving the President authority to issue a proclamation to such effect, as I have already suggested in my address be-

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fore the National Conference of State Boards of Health in 1884.

The occurrences of the past few months fully confirm all that I have hitherto said upon this subject. Maritime quarantine can be efficiently administered only by the National Government, and its cost should be defrayed from the national treasury, since it is a measure of sanitary defense for the whole country against the invasion of foreign pestilence. A short cut to the same result may be had by shutting out the immigrant himself, and with him all the other ills which the steerage, like a veritable Pandora's box, has let loose upon this country. As I have elsewhere said: It is the steerage of the immigrant vessel, with the poverty, squalor, and uncleanliness of too many of its denizens, with its crowd-poison and other conditions favorable to the development of the specific contagions, which we, as sanitarians at least, have to fear and guard against.

If Congress can be induced to give the subject the consideration which its importance to the well-being of the Republic demands, it would be well to inquire into the feasibility of restricting the entrance of immigrants to those ports only which may be provided with proper facilities for their inspection, detention when necessary, and other treatment adequate to effectually prevent their carrying contagion into the country either by themselves or their belongings. And in this connection it seems proper to observe, in view of recent developments, that the language employed in my "Report of an Inspection of the Atlantic and Gulf Quarantines," with reference to the quarantines at New York and at New Orleans, was well considered. I then, in the fall of 1885, wrote: The quarantine plant and facilities at the port of New York are unrivaled, etc. That the "plant" has not been maintained in the condition it was when first constructed, and that the "facilities" have not been utilized, do not surprise those familiar with the situation. The result witnessed in the fall of 1887 is foreshadowed in the concluding paragraph of my report on this station: "New York *may* exclude cholera under her present system; but more confidence would be reposed in the result if less were demanded of professional ability, personal integrity, and executive firmness in the health officer, and if the system were freed from influences which are most deprecated by those who, without prejudice, best understand them." In short, the sanitary efficiency of the New York quarantine has been interfered with to a serious extent by political influences.

With regard to New Orleans, I still indorse the claim made that it "is the most thorough and vigorous system of sanitary quarantine which has ever been enforced for the protection of a port from the introduction of foreign contagion." But from what has been already said in the preceding it is obvious that I do not believe that any amount of sanitation—of disinfection, cleansing, etc.—will suffice to exclude such a capricious disease as cholera. There is absolutely no safety for this country in allowing immigrants from Europe—so long as cholera exists anywhere on that continent—to land on our shores until having complied with the following conditions:

First. The vessel to be taken charge of by the quarantine authorities immediately on arrival, and released only after she is put in a perfect sanitary condition.

Second. The thorough cleansing and disinfection of all personal belongings of passengers, officers, and crew—*coupled with a detention of observation long enough to cover the recognized period of incubation of the disease after arrival.*

Fortunately there have been, as yet, no cases of cholera developed among or from the immigrants allowed to land and travel into the interior from these various vessels, and it is probable that whatever danger there may have been from these is now past. Occasional cases of cholera still occur in southern Europe, and experience, both remote and recent, forbids a positive conclusion that the epidemic has run its course in

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that country; while we know that it has again reappeared in Chili, and is now raging at Santiago, and its extent in South America can only be conjectured.

WATER SUPPLIES AND THE POLLUTION OF STREAMS.

Turning from this consideration of the subject to our own duty as a State Board of Health, the occurrences above dwelt upon fully justify all the efforts made during the past four years to perfect the sanitary condition of the State, and emphasize the necessity for their further continuance. The results of the unparalleled drought of the past year demonstrate the importance of a vigorous prosecution of the investigation into the sources of and remedy for the pollution of streams and the character of the water supply, not only of cities, towns, and villages, but of the country generally throughout the State. Coupled with the chemical and biological examination of water supplies, it is designed to utilize the data obtainable by collecting the various borings made in many parts of the State for coal, artesian wells, gas, etc. These should indicate the character, extent, and availability of our sub-surface water supply, and the results of the study and research, while being directly in the line of sanitary interests, will be profitable from an economic standpoint. Only less important than the prevention of disease, and premature death thereby, would be the knowledge which should enable the farmers, stock-raisers, and others to remedy, as far as possible, the results of prolonged dry weather, and to supplement the ordinary sources of supply from the underground reservoirs.

Illinois, though suffering, has, fortunately, been spared the widespread diseases which have been caused by drought during the past year in neighboring States, but the mode of cholera propagation and the extent and severity of a cholera epidemic depending so largely upon the character of the water supply, we cannot rest satisfied until every community in the State is assured of the best attainable condition of this great sanitary necessity. Wherever typhoid fever spreads beyond sporadic cases, and wherever diarrhœa and dysentery are usually prevalent, it is safe to assume that Asiatic cholera may become epidemic if the specific contagion be introduced, and it will be wise to remedy the conditions which cause such spread and prevalence before the graver disease shall get a foothold.

SANITARY SURVEYS.

In addition to prosecuting this work during the coming season, the general sanitary labors, which have been on the whole satisfactorily pursued during the past year, will need to be stimulated and encouraged during 1888. Sanitary surveys of places, where these have not yet been undertaken, and revision and utilization of those already made, are among the most useful agencies which the Board has yet devised for promoting general sanitation.

During the past year the surveys of Alton, Anna, Belleville, Beardstown, Carlinville, Collinsville, Freeburg, Mt. Vernon, Ottawa, Rockford, Rock Island, Springfield, Streator, Tuscola, and Urbana have been completed, and are now in possession of the Board awaiting publication. The data contained in these surveys are not confined to sanitary matters alone, but there is much information pertaining to every locality which has never before been collected, and is nowhere else accessible. There is a marked improvement in the completeness and thoroughness of the work done during the past year in this direction. This is, no doubt, largely due to the publication of the sanitary surveys in the eighth annual report of the Board. These have obviously been studied and profited by, and it is a source of regret that the publication of the ninth annual report —the matter for which has been for some time ready for the printer –has been so long delayed through the complications in the public printing.

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HEALTH OF THE STATE.

Localized outbreaks of diphtheria and scarlet fever have been reported from a number of places during the closing quarter of 1887, but with no special tendency to epidemic spread. Want of proper and efficient municipal sanitary organization has prolonged the existence of the former disease in Belleville and of the latter in Quincy. Diphtheria is reported at Beardstown, Belleville, Blair, Edwardsville, Elmhurst, Nokomis, Rockford, Sadorus, and near Sparta; scarlet fever at Chester, Mount Sterling, Nokomis, Quincy, Rockford, Sannemin, and Sparta; typhoid fever and "milk sickness" near Nokomis and neighborhood of Potomac, and a group of cases of typho-malarial fever at Downs.

A case of small-pox developed in the person of a railroad conductor on his return to Clinton (DeWitt County), from an excursion into Mexico, where he undoubtedly contracted the disease. A case of varioloid has also occurred at Decatur. The source of the contagion in this latter case has not yet been determined. The usual precautions prescribed in the preventable-disease circular of the Board have been enforced at these places, and the local authorities do not anticipate any spread of the contagion at Decatur. The conductor at Clinton is convalescent, but his three children have contracted the disease. Every effort is being made to confine the disease to this one family.

Another edition of the circular on scarlet fever, with some few revisions, has been prepared during the quarter and is now ready for distribution.

MEDICAL-PRACTICE ACT.

There were issued during the quarter ninety-four certificates authorizing the practice of medicine in the State—sixty-six to graduates upon diplomas from medical colleges in good standing; twenty-four to non-graduates upon proof of ten or more years' practice in the State prior to July 1, 1887, and four duplicates upon proof of the destruction of the originals. This number is larger than usual in the last quarter of the year, the increase being due to the operation of the revised act by which those formerly exempt are now required to take out certificates.

Certificates were also issued to twenty midwives—ten upon diplomas or licenses; two upon examination; seven upon years of practice, and one duplicate.

During the year four hundred and eighty-five original and thirteen duplicate certificates authorizing the practice of medicine were issued. Diplomas presented by thirty-one graduates of seven different colleges were required to be supplemented by examinations of the applicants on branches or subjects omitted by the respective schools; and in six similar cases the applicants declined to appear for examination and left the State. In addition to these, sixty-nine applications were refused owing to the inability of the applicants to comply with the terms of the medical-practice act, or the rules of the Board based thereon.

Of the total four hundred and eighty-five original certificates issued, four hundred and thirty-four were to graduates of medical colleges; forty-four to practitioners of ten or more years' practice prior to July 1, 1877, and seven to candidates upon examination. The certificate of one practitioner was revoked for "unprofessional and dishonorable" conduct.

To midwives during the year ninety-five original certificates were issued—thirty-six being to licentiates; thirty-six upon examination, and twenty-three upon years of practice in this State. Seventeen applications were refused, mainly because of failure to pass the prescribed examination.

MEDICAL EDUCATION.

In order to remedy, as far as possible, the effects of the delay in the public printing—the cause of which has been already referred to—the following summary and tables are submitted from the report on medical education, which has formed a

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feature in the annual reports of the Board for several years past. The matter for this report, which has involved a great amount of labor, is ready for the printer, and as the value of its information would be materially impaired by further delay it is deemed proper to make it public, to this extent at least, in the abstract here presented.

In brief, the data collected indicate a continued improvement in the methods and a still further heightening of the standard of medical education in this country—a marked and steady impetus to which, it may be fairly claimed, has been given by the Illinois State Board of Health in its practical enforcement of a schedule of minimum requirements for medical colleges, conformity with which is necessary to ensure recognition as in "good standing" for the purposes of the medical-practice act; also the annual publication of this report, the work of other boards, and the agitation of the profession in the same direction.

The text of the Report on Medical Education for 1887 contains the data of historical interest pertaining to 258 institutions, dating back to 1765; the last report contained such data for 253 institutions. It contains, also, all necessary information as to the title, location, addresses of corresponding officers, faculty, curriculum of study, length and dates of sessions, requirements for matriculation and for graduation, fees, number of matriculates and of graduates at each session since 1877—and other facts of interest concerning the 129 medical colleges now in existence. It also embraces the statistics of a total of 116,529 medical students, classified by schools of practice, by States, by individual colleges, and by sessions, for each year during the period 1877-78 to 1886-87 inclusive.

The changes noted by a comparison with the report of 1886 show a net gain of two regular schools and a loss of two eclectic schools; while the others remain unchanged. As compared with the conditions which existed prior to the enforcement of the schedule of minimum requirements—that is, prior to the session of 1883-84—the report shows that there are now 114 colleges which exact an educational requirement of intending matriculates, as against 45 formerly—there being no change in this respect from the previous year; that 43 colleges now exact attendance upon three or more courses of lectures as against 22 formerly—being a gain of two over 1886—and 57 others make provision for a three or four years' graded course; that hygiene is now taught in 114, and medical jurisprudence in 112 colleges, as against 42 and 61 respectively, prior to 1883. There is an increase in the average of lecture-terms from 23.5 weeks to 24.9 weeks during this period, and 114 colleges now have terms of five months or over, and 63 have terms of six months or over as compared with 101 and 42 respectively. There is only one medical college that has a course less than twenty weeks—the Medical College of Georgia.

The effect of this improvement in methods of instruction and of the higher qualifications demanded before graduating the student is best seen in the diminishing percentage of graduates to matriculates. The tables embraced in the report now cover a sufficiently long period—from 1877 to 1887 inclusive—and deal with large enough numbers--116,529 matriculates and 37,493 graduates—to give them a positive value for this purpose. Errors arising from unusual or accidental conditions are largely canceled or diminished in importance in these aggregates, and the inferences drawn may be accepted as fairly trustworthy.

The first fact of importance which arrests the attention in this comparison is that, notwithstanding the growth of population, the total number of medical students has never yet reached the proportions attained in 1882-83. The sessions of that winter were attended by 13,088 students; of 1883-84 by 12,763 students; of 1884-85 by 11,975 students; of 1885-86 by 12,321 students, and of 1886-87 by 12,948 students.

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Although there was a gain last year of 627 students over the attendance in 1885-86, the aggregate in 1886-87 was still 140 less than in 1882-83.

The effect of a higher standard of qualifications for graduation is further shown in the diminishing percentage of graduates to the total number of students. In 1882-83 out of every 1,000 matriculates 322 were graduated, taking both the United States and Canada and all schools of practice into the account. In 1886-87 only 294 out of every 1,000 matriculates were graduated. In the United States alone in 1882-83 out of every 1,000 matriculates 331 were graduated, while in 1886-87 only 305 out of every 1,000 matriculates were graduated.

The subjoined summary and tables will enable a further study of this subject to be made.

SUMMARY OF MEDICAL INSTITUTIONS AND STUDENTS IN THE UNITED STATES AND CANADA, 1877—1887, INCLUSIVE.

Institutions.	Regular.	Homœo.	Eclectic.	Ph. Med.	Miscell.	Fraud't.	Totals.
Total number of Medical Institutions embraced in this Report (*a*)	174	25	34	8	4	13	258
In the United States	158	25	34	8	4	13	242
In Canada	16						16
Total number of Colleges now in existence (*b*)	105	13	8	3			129
In the United States	93	13	8	3			117
In Canada	12						12
Total number of Institutions now extinct	70	12	26	5	3	13	129
In the United States	66	12	26	5	3	13	125
In Canada	4						4
Total number of Colleges which now exact educational qualifications as a condition of matriculation (*c*)	90	13	8	3			114
Which formerly exacted such qualifications (*c*)	41	4					45
Total number of Colleges requiring attendance on three or more courses of lectures (*c*)	37	5	1				43
Which formerly required such attendance (*c*)	21	1					22
Total number of Colleges which now recommend but do not exact three or more courses (*c*)	45	7	4	1			57
Which formerly made such recommendation (*c*)	43	7	2	1			53
Total number of Colleges which now have chairs of hygiene (*c*)	91	13	8	2			114
Which formerly taught this branch (*c*)	32	7	3				42
Total number of Colleges which now have chairs of medical jurisprudence (*c*)	88	13	8	3			112
Which formerly taught this branch (*c*)	49	8	4				61
Total number of Colleges which require a thesis	30	3	4				37
Total number of Colleges for women only	7	1					8
In the United States	5	1					6
In Canada	2						2
Total number of Colleges for both sexes	20	8	9	2	1		40
Total number of Colleges for colored students only	2						2
For both white and colored students	1						1

Notes.—(*a*) "Total number of Institutions," includes seven (7) examining and licensing bodies which do not give instruction; and three (3) schools which do not confer degrees.

(*b*) Does not include those specified in note *a*.

(*c*) "Now" and "formerly" have reference respectively to the periods before and since the enforcement of the Schedule of Minimum Requirements, namely, the close of the sessions of 1882-1883.

LIST OF COLLEGES IN THE UNITED STATES AND CANADA NOW IN EXISTENCE, BY STATES.

1. Medical College of Alabama, Mobile.
2. *Medical Department Arkansas Industrial University, Little Rock.
3. Cooper Medical College, San Francisco.
4. Medical Department, University of California, San Francisco.
5. California Medical College, San Francisco.
6. Hahnemann Medical College of San Francisco.
7. College of Medicine, University of Southern California, Los Angeles,
8. Toronto University, Medical Faculty, Toronto.
9. Royal College of Physicians and Surgeons, Kingston.
10. Medical Department, Weston University, London.
11. Woman's Medical College, Toronto.
12. Kingston Women's Medical College, Kingston.
13. McGill University, Faculty of Medicine, Montreal.
14. École de Medicine et de Chirurgie, Montreal.
15. Laval University, Medical Departments, Quebec and Montreal.

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16. University of Bishop's College, Faculty of Medicine, Montreal.
17. Halifax Medical College, Halifax.
18. Dalhousie University, Faculty of Medicine, Halifax.
19. Manitoba Medical College, Winnipeg.
20. University of Denver, Medical Department, Denver.
21. Medical Department, University of Colorado, Boulder.
22. Gross Medical College, Denver.
23. Medical Department, Yale College, New Haven.
24. National Medical College, Washington.
25. University of Georgetown, Medical Department, Washington.
26. Howard University, Medical Department, Washington.
27. Medical Department, National University, Washington.
28. Medical College of Georgia, Augusta.
29. Atlanta Medical College, Atlanta.
30. Georgia College of Eclectic Medicine and Surgery, Atlanta.
31. Southern Medical College, Atlanta.
32. Rush Medical College, Chicago.
33. Chicago Medical College, Chicago.
34. Hahnemann Medical College and Hospital, Chicago.
35. Bennett College of Eclectic Medicine and Surgery, Chicago.
36. Woman's Medical College of Chicago.
37. Chicago Homœpathic Medical College, Chicago.
38. College of Physicians and Surgeons, of Chicago.
39. Quincy College of Medicine, Quincy.
40. Physio-Medical Institute, Chicago.
41. Physio-Medical College of Indiana, Indianapolis.
42. Medical College of Indiana, Indianapolis.
43. Central College of Physicians and Surgeons, Indianapolis.
44. Fort Wayne College of Medicine, Fort Wayne.
45. Indiana Eclectic Medical College, Indianapolis.
46. Curtis Physio-Medical Institute, Marion.
47. College of Physicians and Surgeons, Keokuk.
48. Medical Department, State University of Iowa, Iowa City.
49. Homœpathic Medical Department, State University of Iowa, Iowa City.
50. Iowa College of Physicians and Surgeons, Des Moines.
51. University of Kansas, Medical Department, Lawrence.
52. University of Louisville, Medical Department, Louisville.
53. Kentucky School of Medicine, Louisville.
54. Louisville Medical College, Louisville.
55. Hospital College of Medicine, Louisville.
56. Medical Department, Tulane University of Louisiana, New Orleans.
57. Medical School of Maine, at Bowdoin College, Brunswick.
58. *Portland School for Medical Instruction, Portland.
59. University of Maryland, School of Medicine, Baltimore.
60. College of Physicians and Surgeons, Baltimore.
61. Baltimore Medical College, Baltimore.
62. Woman's Medical College, of Baltimore.
63. Baltimore University, School of Medicine, Baltimore.
64. Harvard University, Medical School, Boston.
65. Boston University, School of Medicine, Boston.
66. College of Physicians and Surgeons, Boston.
67. Department of Medicine and Surgery, University of Michigan, Ann Arbor.
68. Homœpathic Medical College, University of Michigan, Ann Arbor.
69. Detroit College of Medicine, Detroit.
70. Minnesota Hospital College, Minneapolis.
71. Minneapolis College of Physicians and Surgeons, Minneapolis.
72. St. Paul Medical College, St. Paul.
73. Minnesota Homœpathic Medical College, Minneapolis.
74. Missouri Medical College, St. Louis.
75. St. Louis Medical College, St. Louis.
76. Medical Department, University of the State of Missouri, No. 1, Columbia.
77. Homœpathic Medical College of Missouri, St. Louis.
78. Kansas City Medical College, Kansas City.
79. St. Louis College of Physicians and Surgeons, St. Louis.
80. American Medical College, St. Louis.
81. Northwestern Medical College, of St. Joseph.
82. University of Kansas City, Medical Department, Kansas City.
83. St. Joseph Medical College, St. Joseph.
84. Beaumont Hospital Medical College, St. Louis.
85. Omaha Medical College, Omaha.
86. Dartmouth Medical College, Hanover.
87. College of Physicians and Surgeons in the City of New York.
88. Albany Medical College, Albany.
89. University of the City of New York, Medical Department, New York.
90. Medical Department, University of Buffalo.
91. Long Island College Hospital, Brooklyn.
92. New York Homœpathic Medical College, New York.
93. Bellevue Hospital Medical College, New York.
94. New York Medical College and Hospital for Women, New York.

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95. Eclectic Medical College of the City of New York.
96. Woman's Medical College of the New York Infirmary, New York.
97. College of Medicine of Syracuse University, Syracuse.
98. Medical Department of Niagara University, Buffalo.
99. Leonard Medical School, Raleigh, N. C.
100. Medical College of Ohio, Cincinnati.
101. Western Reserve University, Medical Department, Cleveland.
102. Eclectic Medical Institute, Cincinnati.
103. Starling Medical College, Columbus.
104. Homœpathic Hospital College, Cleveland.
105. Cincinnati College of Medicine and Surgery, Cincinnati.
106. Miami Medical College, Cincinnati.
107. Medical Department, University of Wooster, Cleveland.
108. Pulte Medical College, Cincinnati.
109. Columbus Medical College, Columbus.
110. American Eclectic Medical College, Cincinnati.
111. Toledo Medical College, Toledo.
112. Northwestern Ohio Medical College, Toledo.
113. Woman's Medical College, of Cincinnati.
114. Medical Department, Willamette University, Portland, Oregon.
115. Medical Department, Oregon State University, Portland.
116. University of Pennsylvania, Department of Medicine, Philadelphia.
117. Jefferson Medical College, Philadelphia.
118. Hahnemann Medical College and Hospital, Philadelphia.
119. Woman's Medical College of Pennsylvania, Philadelphia.
120. Medico-Chirurgical College, of Philadelphia.
121. Western Pennsylvania Medical College, Pittsburgh.
122. Medical College of the State of South Carolina, Charleston.
123. Medical Departments of the University of Nashville and Vanderbilt University, Nashville.
124. Medical Department, University of Tennessee, Nashville.
125. Meharry Medical Department of Central Tennessee College, Nashville.
126. Memphis Hospital and Medical College, Memphis.
127. Medical Department of the University of Vermont, Burlington.
128. University of Virginia, Medical Department, Charlottesville.
129. Medical College of Virginia, Richmond.

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*Teaching Schools. Do not grant degrees.

LIST OF EXAMINING AND LICENSING BODIES.

1. Medical Association of the State of Alabama.
2. Illinois State Board of Health.
3. Iowa State Board of Medical Examiners.
4. Minnesota Medical Examining Board.
5. Mississippi State Medical Association, Board of Censors.
6. Board of Medical Examiners of North Carolina.
7. Medical Examining Board of Virginia.

The Board met pursuant to adjournment. Dr. W. A. Haskell was re-appointed by Governor Oglesby as a member of the Board, and as his own successor.

At the annual election of officers for the ensuing year, Dr. W. A. Haskell was re-elected President, and Dr. John H. Rauch was re-elected Secretary.

After the transaction of some further routine business, the Board adjourned.

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BALTIMORE GYNÆCOLOGICAL AND OBSTETRICAL SOCIETY.

A CASE OF TETANOID CONSTRICTION OF THE UTERUS.

H. M. WILSON, M. D., said: Four years since, I was first consulted by Mrs. J., a lady of about 24 years of age, just married. She was of fine physique and healthy appearance. Her trouble at that time was uterine neuralgia. Several years before she had had stricture of the bowel, requiring surgical assistance. Nothing of special note occurred during the two years following, except a small subcutaneous abcess in the right iliac fossa, which was lanced, and soon healed. This reappeared in a smaller form — about the size of an almond — two months since. At the end of three years she became pregnant. Her gestation was accomplished without special distress, except on several occasions after moderate exercise she had slight attacks of syncope — the last, about four days prior to her confinement. Five days before labor, whilst in bed and without any exertion on her part, her water was discharged. I was called to see her at 6 o'clock in the morning, and found her bright and cheery, free of headache, with pains, described as sharp, at intervals of about ten minutes. Upon examination the soft parts were found to be in much better condition than had been feared. Bowels twice moved, kidneys acting freely. The os was entirely closed. Upon my return in two hours the os had opened to the size of a dime, edges soft and thin, and the head presented in the right occipito-anterior plane. From this time I remained with her. Quinine was ordered, to assist in relaxation. My patient now commenced to complain of nausea, to the extent of emesis, which was frequently, but not inordinately, repeated. The further progress was slow, but not requiring, in my judgment, either bleeding or medicine. At 5.30 in the afternoon, I deemed the os sufficiently dilatable to admit a careful application of the forceps (Simpson's), the head being within easy reach. No difficulty was encountered in their adjustment, but in the effort to deliver no advance could be made. Thinking the funis might be abnormally short or tightly wrapped about the neck, I substituted the Tarnier instrument. I could cause the caput to appear at the vulva so as to be seen, but instantly it would disengage itself from the blades and fly back to its former position. At this point I first observed her pallor, and, putting my finger on her pulse, was shocked to find it a mere thread. Instantly suspending the anæsthetic, I administered brandy freely by the mouth and in repeated hypodermics. The lady did not rally, and died within thirty minutes. We satisfied ourselves of the death of the fœtus, but, seeking for some solution of this terrible and inexplicable result, Dr. Miltenberger, at my request, effected the post-mortem delivery. Upon introducing his hand he found a band embracing the shoulders, which, to use his own words, "gave the impression of a band of steel." It was only after a prolonged and most persistent effort that version was finally accomplished.

Such were the different phases of the case.

Let us consider the remedial appliances; and first, as to anæsthetics: Chloroform was used occasionally, and in small quantities, for an hour probably, just at the completion of a pain, "to blunt its edge," as the lady expressed it, but not carried to its full effect; indeed, more as a placebo. This was thought proper on account of the lady's highly sensitive organism, and to quiet, as far as possible, her urgent demands for relief. When instruments were used it was inhaled freely, but, as I have before stated,

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instantly abandoned upon the appearance of dangerous symptoms. She came from under its influence speedily, asking questions, complaining of the strength of the brandy, demanding water, requesting to be fanned, etc., her intellect remaining unclouded to the last.

An accoucheur of large experience in a neighboring city wrote me of a case in his own practice very similar. He had supplemented what I had done by copious bloodletting, had failed with forceps, and after so long a time had succeeded in introducing his hand, but suffered the further complication of a ruptured uterus, losing both mother and child.

As to the immediate cause of death: In this case the lady passed from the influence of the chloroform quickly, and, so far as I could observe, entirely. She asked and answered questions, and her intellect was unclouded. As for the forceps, they were applied without difficulty and used with discretion. In nothing did the manipulation differ from their constant and ordinary use.

We must look for the real cause, I think, in the tetanoid condition of the uterus, as I have ventured to name it. Whether the opinion held by some be correct, that this condition is induced by the early evacuation of the waters, or that the source of danger must be sought elsewhere, I cannot determine. The reflex symptoms indicated a tetanic condition of the womb. Curiously enough, the lexicographers and surgeons speak of puerperal tetanus, but little or no mention is made of such a malady by any obstetrical author within my knowledge. Dr. R. P. Harris, in a note in Playfair, writes of "tetanoid falciform contraction of the uterus." Dr. Thomas C. Smith, in the "American Journal of Obstetrics," under the caption of "Ante-partum Hourglass Contraction of the Uterus," has given the fullest account I have seen of this form of dystochia. He has collated many reported cases as illustrating the general subject, referring to Dr. Roper's paper before the London Medical Congress in 1881. Dr. Hosmer's case, reported in the "Boston Medical and Surgical Journal," 1878, in which craniotomy was done, but without success, and a case reported by Dr. McDonald before the Edinburgh Obstetrical Society, 1878–79. But the nearest approach to the case under consideration is reported in the "Philadelphia Medical Recorder," 1821, by Dr. I. Baltzell, of Frederick, Md. After a fruitless trial of every expedient, the patient died undelivered, and upon a post-mortem examination the tetanic band was still so rigid as to require the knife in order to release the child.

How should such a case be treated? If the actual touch verifies the condition, the best procedure, in my opinion, would be version if possible, and in the failure of this the Cæsarean section. Should collaspe supervene, the free use of brandy, with external heat and electricity. Should its invasion be as rapid in point of time and progress as in my case, and in which respect it differs from all others known to me, then the prospect of success by the expedients suggested, or by any other, would seem to be very slight.

LAPAROTOMY, WITH REPORT OF THREE CASES

H. P. C. WILSON, M. D., said: I present to the Society this evening the report of my last three cases of Laparotomy.

The first was for the removal of a compound multilocular tumor of the ovary.

The second, for the removal of a papillomatous tumor of the ovary, with abdominal dropsy.

The third, for the removal of both ovaries and tubes, in a woman to whom all other means of treatment for over sixteen years had failed to give relief, and a shattered mind and body had brought her to great desperation.

Within the last few years so much has been done and written in abdominal surgery that I shall not be expected to add anything new on a subject so nearly ap-

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proaching perfection, and yet there are points in every one of these cases that will not fail to interest those who are working in this department of surgery.

There is no surgeon who does not learn something from his last operation. There is no collaborator who cannot extract something of profit from the work of others. This is my excuse for detaining you this evening. If I shall fail to weary you, and add ever so little of pleasure or profit to this meeting, I shall be amply repaid. I shall at once proceed to

COMPOUND UNILOCULAR OVARIAN TUMOR.

CASE I. Mrs. H., æt. about 56, was brought to the Hospital for the Women of Maryland in February, 1887, and placed under my care by Dr. George B. Reynolds. She had a very large tumor occupying nearly the whole abdominal cavity. It was diagnosed to be a compound multilocular tumor of the ovary. She was very feeble. The tumor had been growing for several years. She was very pale, had been badly nourished, lived in a very malarious part of the city, and most of her time was spent at the washtub in a damp, illy-lighted cellar.

She was put on quinine, and an attempt made to build up her health, but, instead of gaining, she was seen to be rapidly losing strength, and it was found necessary to operate at once or she would probably soon die of exhaustion.

On February 22, 1887, she was chloroformed by Dr. Wm. P. Chunn, and, assisted by Dr. Robert T. Wilson, in the presence of Dr. George B. Reynolds, I opened the abdomen. My diagnosis was confirmed. The walls of the tumor were so rotten that the gentlest manipulation ruptured them, and a dark, thick fluid was discharged into the abdominal cavity. I proceeded to separate adhesions, during which much of the rotten parts of the tumor were broken off and fell within the abdomen. The pedicle was transfixed with a needle and double ligature, which was cut and tied on either side, and the tumor was then cut away.

Several gallons of hot water were poured in and the abdominal cavity thoroughly washed out. The abdominal incision was closed with silk sutures, and no drainage-tube was used. The patient made a good recovery for ten days, when a typho-malarial fever developed, and for five weeks afterwards she was desperately ill. She finally got perfectly well, and is now in excellent health.

This case is of interest for the great amount of hot water found necessary to thoroughly cleanse the abdominal cavity and its contents, for the near approach to death before the operation from exhaustion, and for recovery, after weeks of severe illness, from a typho-malarial fever following close on such an operation.

PAPILLOMATOUS CYSTOMA OF THE OVARY.

CASE II. Miss H., æt. 45 years, consulted me for the first time September 10, 1887. She had always been a perfectly healthy woman till six weeks before; never sick in her life. She had menstruated regularly until the time of seeing me, when she had missed her menses for five days over her regular period.

Six weeks ago she observed her abdomen was enlarging, without appreciable ill-health. This enlargement increased rapidly, until when I saw her it was so distended with ascitic fluid, as to greatly impede her respiration. I could nowhere discover a tumor in the abdomen or pelvis, so great was the abdominal distension. The pelvis was free, only a moderate thickening of the right broad ligament. Uterus movable and normal in size, as shown by the probe. The great abdominal distension prevented the discovery of anything by bi-palpation.

The heart was sound, liver healthy; examination of urine revealed no disease of kidneys, urine scanty and full of urates; lungs sound, no anasarca.

Under these circumstances I diagnosed

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a papillomatous tumor of the ovary, and advised laparotomy, rather than tapping, for removal of the ascitic fluid, and, if possible, removal of the suspected tumor. I preferred cutting in to tapping, because I would then know the exact condition of things, and might be able at once to proceed to the removal of any tumor, which might be the cause of the ascites, and because if I were unable to remove the tumor, or might consider it unwise so to do, the abdomen was less likely to fill up rapidly again after an exploratory incision, than after tapping. This has been my experience in such cases. Moreover, I did not consider an incision much, if any, more dangerous than tapping. I left the city two days after this interview, and was absent one week.

I saw my patient again September 19. The abdominal enlargement was increasing rapidly. Dyspnœa was greater, and strength rapidly failing. Kidneys working badly. I again urged the operation, but the patient could not get her mind up to this point. She moreover plead the absence of members of her family, and was unwilling to consent to an operation till their return. I saw her every day or two, and urged the dangers of delay. In another week she became so exhausted as to be unable to move about, and had to rest in a semi-prone condition. Her family then returned, and Dr. William T. Howard was asked to see her with me, on October 3. He confirmed my plan of procedure, and an operation was appointed for Wednesday, October 5. The day before the operation her bowels gave way, and she had profuse diarrhœa, which was checked by liberal doses of paregoric. The night before the operation she slept soundly from the paregoric taken.

At 12 o'clock on October 5, being etherized by Dr. Wm. B. Canfield, and assisted by Dr. Wm. T. Howard and Dr. Robert T. Wilson, I cut into the abdominal cavity, making an incision of about two inches midway between the umbilicus and pelvis. Between two and three gallons of yellowish ascitic fluid was discharged. A ragged papillomatous mass presented, and on passing two fingers into the pelvis I found a large tumor growing from the fundus of the uterus and the right broad ligament and ovary. Masses of varied size broke away from the surface of the tumor on the most gentle manipulation, and bleeding was very free. With large compression-forceps I clamped the tumor close to the uterus and ovary and thus stopped hæmorrhage, having previously enlarged the incision to four inches. I then transfixed the broad pedicle with a needle, armed with a strong double ligature, which was cut and tied on either side, close to the uterus, and including the ovary. Each ligature was then brought entirely around the whole pedicle, and firmly tied again. The ends were cut short, and the tumor cut away.

Hot water was poured copiously into the abdominal cavity, and it was thus thoroughly washed out, much of the débris of the tumor coming away with the water. The peritoneum was in a state of sub-acute inflammation, with here and there a patch of recent lymph. A drainage-tube was inserted to the bottom of the pelvis, and the abdominal opening closed with twelve silk sutures.

The abdominal wound was dusted with iodoform—a linen cloth—absorbent cotton—a rubber cloth perforated by the drainage-tube, at the top of which was placed a sponge, and the rubber cloth folded over it, all secured by a flannel bandage. Hypodermics of whisky were necessary during the operation, which lasted over an hour.

The patient was then placed in bed, wrapped in warm blankets, with hot water bottles around her. Reaction came on very slowly.

At 10 p. m., temperature was 101° F., and pulse 140, and very feeble. No nausea. Ten drops of brandy in two teaspoonfuls of hot water were given every two hours. Ten drops of Magendie's solution of mor-

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phia were given hypodermically, and fifteen drops of tincture of digitalis were given every four hours, and continued for three days. The drainage-tube was sucked every two or three hours during the afternoon and night with a glass syringe and rubber tube attached. Much bloody, watery fluid was withdrawn, and occasionally a small clot of blood.

October 6, 8 a. m., temperature 102⅘, pulse 136; slept some; very feeble. Ordered one teaspoonful of brandy, and three teaspoonfuls of hot water every two hours; one teaspoonful of lime water and two teaspoonfuls of milk every two hours. Digitalis as usual. Gave a hypodermic of 30 drops of muriate of quinia and urea. Drainage-tube sucked as yesterday, and half an ounce of bloody fluid withdrawn. None in the sponge. At 10 p. m., temperature and pulse same as in the morning. Thirty drops of quinia and urea were given as in the morning; digitalis continued; ten drops of Magendie's solution were given hypodermically at bedtime, but not repeated after to-day.

This treatment was continued for four days, except to increase the brandy to one tablespoonful every two hours, and the milk to eight tablespoonfuls every two hours. The highest temperature was 103⅘, and for four days it varied from 101 to 103⅘. Pulse was never under 120, and very feeble; the whole body was cool, and at times covered with a clammy sweat. Beef tea and brandy were injected into the rectum once or twice daily. Her prostration was very great.

At the end of the tenth day I removed the drainage-tube, although I was able to suck from it three or four times daily from two to four teaspoonfuls of a bloody, watery fluid. The tube was found to contain at its lower extremity a plug of solid lymph about one inch long.

October 13, one week after the operation. After the fourth day temperature fell below 100, and has not risen above it to this time. Pulse gradually subsided to 108, at which I found it to-day. Digitalis stopped after fourth day. Hypodermics of quinia stopped after eighth day. Her bowels were well moved by an injection of beef tea and brandy on the third day, and have been moved every day since. Passes flatus freely. Brandy and milk continued in same quantity, every two hours, night and day. Has some sero-purulent discharge from the seat of drainage-tube.

October 19, two weeks after the operation, temperature 98, pulse 100. Still some oozing of sero-purulent fluid from seat of drainage-tube. Removed all sutures twelve days after the operation. Union complete, except where the drainage-tube was. Tongue dry and red, complains of great weakness; bowels regular, and is much troubled with wind colic. Is taking large quantities of rich milk, with brandy or old port wine.

November 2, four weeks after the operation. Our patient has continued to improve slowly since last note. Has been eating and enjoying solid food for the past few days in addition to milk and brandy. Has been very nervous and depressed and sleepless. Opiates, bromides, and paraldehyde made her worse, and it was only when I put her on large doses of extract of sumbul and assafœtida in capsules that she became calm and cheerful, and obtained plenty of refreshing sleep. She has improved rapidly under these remedies, and sat up in a chair for the first time to-day.

November 8, convalescing rapidly. Has a good appetite; is cheerful and brighter, with no unpleasant symptom. Is sitting up and moving about her room. Drainage-tube opening healed.

Will this diseased mass, thoroughly removed from the pelvic organs of this lady, manifest its malignancy, by reappearing in the same place, or in some other part of her body? This is a question yet to be demonstrated.

The tumor was sent to Professor Wm. H. Welch of the Johns Hopkins University,

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for analysis. He returned to me the following report.

* * * "The growth is as you diagnosticated, a papillomatous cystoma of the ovary. I have repeatedly found in ovarian tumors, as in this case, cancerous nodules, which apparently produce no metastases, unless they grow through the external wall of the cyst.

"The specimen consists of only a part of the original tumor. The part removed measures 18 ctm. in diameter and 8 ctm. in depth.

"The tumor is a large cystoma, consisting apparently of a main cyst and numerous smaller cysts. The external cyst wall is smooth and glistening in most places, but there are the remnants of many old adhesions. There are also several irregular outgrowths from the exterior of the cyst. These outgrowths are solid and covered with the external layer of the cyst wall. The largest are about the size of a pigeon's egg.

"The interior of the cyst contains many papillomatous projections and much sloughy material. In the papillomata and in the main cyst wall are many cysts filled with thick, colloid substance.

"The pedicle consists of connective tissue and blood vessels, apparently belonging to the broad ligament. The fimbria ovarica is present, but nothing else belonging to the fallopian tube can be detected. There is a small parovarian cyst with clear contents near the attachment of the frimbria ovarica.

"Microscopical examination shows that the interior of the cysts is lined by cylindrical epithelium. The papillomata are covered with similar epithelium and contain alveolar spaces lined with such epithelium. There are solid masses in the cyst wall with the structure of carcinoma — alveoli filled with epithelial cells.

"Diagnosis: The tumor is an ovarian cystoma of the variety known as papillomatous. In addition to the ordinary appearance of such tumors, there are in the present instance on the cyst wall carcinomatous growths. The tumor is malignant.

"WM. H. WELCH."

REMOVAL OF THE OVARIES AND TUBES AT THE PERIOD OF MENSTRUATION.

CASE III. Miss S., æt. 38, has been a patient of mine for about sixteen years. When she came under my care she had been a great sufferer for some time, confined to her bed, and having hystero-epileptiform convulsions, from five to ten per day, often of the most violent character. She had been unable to stand alone for months, and was brought to me on a bed from an adjoining State. She had terrible dismenorrhœa, and her whole nervous system was in a greatly demoralized state. I never encountered a patient who was a more complete wreck.

I found her with general pelvic cellulitis. Endometritis from cervix to fundus. Uterus anti-flexed and stenosed at the internal os. Her bowels were habitually, and necessarily, constipated. I have known her to go three weeks without an evacuation. At times it was impossible to move them with purgatives. Sometimes I had to rake out the rectum, and at other times I had to assist catharctics by passing a large and long gum tube up the bowels and throwing in the most active enemas.

By attending to the bowels, treating the cellulitis locally, and with constitutional means, she greatly improved; the convulsions ceased. She was able to walk about the city, and after several months under my care she was able to return home, a greatly changed woman. She has returned to me several times within the past sixteen years for treatment. Has as often been benefited, but never cured.

For the last few years her health has been declining. She has been again the subject of all sorts of reflected nervous symptoms, especially at the approach of each menstrual period, when she becomes at times melancholy, at other times greatly excited, so that she and her friends had

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grave apprehensions that she would lose her mind. Convulsions have recently returned at the time of menstruation, and she was becoming addicted to the use of anodynes.

Under these circumstances she returned again, appealing to me for relief; and on October 3, 1887, she was admitted to the Hospital for the Women of Maryland. A careful examination, with a knowledge of all that had been done for her in the past sixteen years, brought me to the conclusion that the removal of the ovaries and tubes held out to her the only hope for relief from her present suffering and probable future dementia.

After two weeks of preparatory treatment, with laxatives, tonics, and nervines, rest and recreation, so as to brace up a shattered nervous system, the 18th of October was appointed as the day for operating.

When I called to see her the evening before, she informed me that the 18th was the day when she should commence to menstruate, though she sometimes went a week or ten days over her regular time. She had misled me as to the time of expected menstruation, but as everything was now ready, as she was up to the operating point, as she could ill afford the expense of remaining long in the hospital, as I never consider it wise to postpone an operation when the day is once appointed, I told her that I would perform the operation on the following day, even if her menses did come on. She had been much alarmed by a meddlesome nurse telling her the great danger she would be in if she were operated on during menstruation, or if it came on immediately afterward. On the next day (October 18), she was etherized by Dr. Wm. P. Chunn; assisted by Dr. R. T. Wilson, I made an incision of about two inches into the abdominal cavity. The ovaries and tubes were found to be enlarged and bound down by old adhesions. The former were soft and friable, the latter were inflamed and tortuous, doubled up at some points upon themselves. The gentlest manipulation caused the ovaries to tear, and I had much difficulty in raising them sufficiently with the tubes to ligate them. A double ligature was passed beneath them, cut and tied on either side, and each ligature was again carried entirely around the pedicle and tied again. The ovaries and tubes were then cut away. There was some oozing from the late adhesions, but sponging was kept up till all was dry, and the abdominal opening was then closed with seven silk sutures, and the wound dressed with iodoform and a dry linen cloth secured by a bandage.

The patient did well. Her temperature rose one day to 101° F., and rapidly fell below 100.° Her pulse never exceeded 110 after reaction from the operation was established.

Menstruation came on the 20th, just two days after the operation, and disappeared n the 24th, without any rise of pulse or temperature.

A few hours after menstruation began her pulse was 98° and her temperature was 100⅘.

She had less flow, and less nervous disturbance at this period than for many months before.

This is my third successful laparotomy done during, or followed by, menstruation within twenty-four or forty-eight hours. I have never lost a case operated on during this period, and I am beginning to think it is a propitious time for these operations. I never had a patient make a better recovery than this, or have less constitutional or local disturbance.

I herewith present to the Society the ovaries and tubes removed.

A CASE OF NYMPHOMANIA.

WM. PAWSON CHUNN, M. D., said: In the history of the case I wish to present, my efforts were exerted without avail, and it is mainly on that account, as well as to obtain the opinion of those present, that I recite the following symptoms: A short time since a

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patient from a neighboring State came under my care; she was in a deplorable condition, due to an ungovernable and continual desire for sexual intercourse. She was 23 years old, unmarried, and had never been pregnant. Her uterus was retroverted and hyperplastic. She complained of a numbness and pain in both ovarian regions, and had worn a pessary for a long time without relief either from the pain or the sexual desire; this last was her worst symptom. She deplored the fact that any one with sufficient opportunity could prevail over her scruples, as had already occurred several times. Sleep was lost at night, and rest disturbed by delusive dreams. She had never practiced any form of self-abuse. After a short course of the bromides, without effect, I suggested that marriage might give her relief. She objected to the motive; and, in addition, reminded me that she had derived no permanent benefit from illicit indulgence. Removal of the clitoris occurred to me, but only to be dismissed as unadvisable. She herself suggested the removal of the ovaries, as she felt satisfied that those organs must be diseased, thus accounting for the severe pelvic pain. This I considered to be too dangerous an experiment, as I had no certainty that she would be fully and permanently relieved by such an operation It seemed to me that taking out the ovaries was not exactly analogous to removal of the testicles in the male. We know that castration of the male removes almost entirely all erotic desire, but the effect on the female has not been sufficiently investigated; about 15 per cent. of all women go through life without any sexual desire whatever, the removal of whose ovaries could have no effect. Desiring to ventilate this subject as fully as possible, I sought out several women who had, to my knowledge, lost their ovaries; one, upon whom the operation had been performed about five years since, told me that at present she had no erotic desire, but, at the same time she volunteered the information that she never had experienced any such desire. Two other women whom I next questioned answered similarly, much to my surprise. On the other hand I have now under my care two sisters, aged respectively 58 and 60 years, both of whom have long since passed the menopause, but each claims now as much sexual appetite as she possessed in youth. Inasmuch as the ovaries of these women must by this time have become atrophied from age, it is apparent that the ovaries are not the only sources of sexual desire. Bearing these facts in mind I was necessarily uncertain in regard to the prognosis in the case of my patient, and having told her as much, she sought the care of another physician.

DISCUSSION.

Dr. G. LANE TANEYHILL remarked that in 1866, while assistant physician at the Maryland Hospital for the Insane, he was in the habit of cauterizing the clitoris with a view of preventing the patient from indulging in masturbation; for nine-tenths of his cases of nymphomania were the result of masturbation; this habit being prevented while the organ was in a state of inflammation in consequence of the use of the caustic, he was the more able to control the nymphomania proper by the free use of elaterium and bromide of potassium and low diet. Cold lotions and cold baths did not avail in his cases of nymphomania as they did in cases of satyriasis. He was of the opinion that Dr. John Fonerden was not far out of the way when he so vigorously insisted that masturbation was closely allied with many forms of insanity, but in his (Dr. T.'s) experience among the insane he had found the disgusting habit as frequently a result, as a cause, of insanity, especially in cases of nymphomania..

A NEW UTERINE CURETTE.

Dr. T. A. ASHBY exhibited a new uterine curette.

The instrument is modeled after the plan of the scoop which is found on the end of the grooved director accompanying the

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majority of surgical-instrument cases. The scoop is attached to a long shaft and handle, so that it can be easily carried to the fundus of the uterus.

It is designed to occupy an intermediate position between Simon's sharp-cutting curette and Thomas' blunt curette. The advantages of the instrument are shown as follows:

1. The size of the instrument admits of its ready passage through the cervix without dilatation of the organ.

2. It is made of flexible metal, so that the shaft can be bent at any angle and thus admit of its application to the uterine cavity when the uterus is flexed upon itself.

3. It is severe enough in its action to cleanse the uterine mucous membrane of unhealthy granulations or vegetations without inflicting any injury upon normal tissue.

This curette will be found to do good service in cases where Thomas' blunt curette or Simon's sharp curette have been usually employed. It is more easy of introduction into the uterus than either of these instruments, and can be employed with equal advantage and greater facility.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

PATHOLOGICAL SECTION—MEETING, FRIDAY, NOVEMBER 4, 1887.

The President, Dr. C. B. Ball, in the Chair.

The Session for 1887-88 of the Academy was opened at the Royal College of Surgeons in Dublin, by the meeting of the Pathological Section.

The President delivered an address on Tetanus, after which Dr. Finny exhibited a specimen of Hour-glass Contraction of the Stomach, which was the seat of several ulcers.

The following were the clinical history and morbid appearances: Mary M'G., a domestic servant, æt.29, was admitted into Sir Patrick Dun's Hospital on May 13, 1887, in a state of collapse and in great pain, which was referred to the lower part of the abdomen. After reaction had set in, under appropriate treatment, she vomited once, and the rejected matter consisted of tea and milk, but contained no blood. The urine was drawn off and found to be free from albumen and indican. All her symptoms were those of acute peritonitis from perforation. Death ensued eight hours after admission. Her history was that she had enjoyed good health up to three weeks before admission, but beyond some slight dyspepsia, she was able to continue her duties as a domestic servant up to the day previous to her admission. The post-mortem examination, made thirty-six hours after death, displayed acute general peritonitis, with flaky lymph and sero-purulent fluid, while the stomach was found to be the seat of recent inflammation, as well as of old and firm adhesions to the liver, spleen, pancreas, and diaphragm. At first sight there seemed to be two stomachs, or one with a very dilated duodenum; and this appearance was due to a constriction transverse of the stomach, nearer to the pylorus than to the cardia. On the anterior surface of the cardiac half of the organ, not far from the greater curvature, the origin of the general peritonitis was seen in the existence of a circular, sharply-defined, perforating ulcer, the size of a threepenny piece. On laying open the stomach it was found to have been the seat of several ulcers—(1), that referred to on the anterior wall, which on the mucous aspect measured a sixpence, and had the punched-out characteristic appearance; (2), a firmly cicatrized, circular

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ulcer on the posterior wall, near the lesser curvature—which was not in a state of activity--whose floor consisted of the pancreas to which it was ultimately adherent; (3), a small ulcer in a stage of activity lower down in the posterior wall; and (4), an oval ulcer extending three-quarter inch from the lesser curvature, transversely to the long axis of the stomach, and in an active stage of destruction of the mucous and part of the muscular coat. This ulcer ran into the circular constriction which divided the stomach into two unequal bags. The constriction, which was half an inch wide, narrowed the organ so as to admit but three fingers, and had all the appearance, from external examination, of the pylorus. The lesser curvature was not dimpled or marked much, but towards it the greater curvature was drawn at this spot, so as to make two bags of the stomach. Its outside was thickened by old lymph, while on the inside the rugæ of the stomach seemed to run into it, and at its cardiac side was the ulcer referred to as No. 4. Dr. Finny discussed the pathological origin of the constriction, and remarked on its want of agreement with the features depended upon by Dr. W. R. Williams as distinctive of congenital hour-glass contraction. He alluded to the rarity of cases of this deformity of the stomach—the greater number having been discovered in the dissecting-rooms. He also laid stress on the following, as exemplified by his specimen—(1), the comparative greater danger of an ulcer situated within the anterior wall; (2), the co-existence of three ulcers in a state of activity; (3), the possibility of relapse; (4), the encouragement to treatment to be derived from the fact that so many ulcers—about half of those recorded—have been discovered in a state of cicatrization.

Dr. MacSwiney asked, Was there any history of the woman having taken food immediately, or soon before, she was attacked with the violent pain and collapse? Very frequently in such cases the rupture occurred in consequence of the stomach being distended with food. He thought Dr. Finny had established that the contraction in this case was pathological.

Dr. Finny, in reply, said there was history of food having been taken immediately before the occurrence of the great pain. The woman had never complained of any pain in the stomach, or other marked gastric symptom, until three weeks before her admission. She was doing her work as a servant when the sudden occurrence of pain obliged her to seek relief. The case was an example of ulcers painlessly eating their way through the walls of the stomach, and ending in perforation at short notice. The woman had vomited before she came into the hospital, and in consequence of the small size of the opening caused by the fatal ulcer nothing was extruded through it.

Dr. Lentaigne communicated a case of Epispadias.

Professor Bennett submitted a specimen from a case of Phlegmasia Alba Dolens.

The patient, a girl, æt. 15, was admitted on the 30th of September, 1886, into Sir Patrick Dun's Hospital, and remained there until the 27th of June, 1887, when she died. When admitted she had phlegmasia alba dolens in the whole of the left leg, which was distended with white œdema. She was extremely emaciated and anæmic, and her œdemic leg was in strong contrast with the rest of her body. There was great difficulty in assigning any cause for the ailment, pregnancy and parturition being entirely out of the question. She suffered from great gastro-intestinal irritation, which was complicated with vomiting and diarrhœa, accompanied with pain. So prominent were these symptoms that at first we thought that the case might be one of typhoid fever, which was even approaching the stage of recovery. The course of the case put that diagnosis out of the question. There was always great abdominal pain and irritation, which could not be controlled by any remedy save the most care-

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ful attention to diet, milk being the only thing that the patient could bear. Three weeks after her admission œdema of the right limb commenced, and the condition of the right leg soon became the same as that of the other. Diagnosis then became easy, it being apparent that there was obstruction of the femoral and iliac veins, and that it had extended up the involved vein on the right side. Clinically the case was an extremely easy one to read, and before the swelling of the right limb occurred it was prognosticated that it would occur. The femoral vein could be felt hard and distended on the left side, and when the œdema on the right side occurred the vein on the opposite side was as firm and hard under the finger as a cord. After this, without any material change in the general system, collateral circulation of the venous system of the abdomen began to establish itself, with a reversal of the blood currents, these being directed towards the thorax, instead of the groin. There was then some slight clearing up of œdema, and just a prospect of recovery. Still the gastro-intestinal irritation remained; and then suddenly there came an accession of symptoms, indicating uræmic poisoning. Then there was rapidly developed extreme œdema of the whole body, which pitted rapidly and finally, with uræmic phenomena, death took place. He would now show what they had guessed at as the cause of the disease, but could not distinguish with certainty. There were two great cylindrical patches, close to each other, in the lower portion of the small intestine, of tubercular ulceration of the intestine, with a great series of enlarged glands infiltrated with tubercular matter occupying the mesentery. There was no tuberculosis of the lung; but the gastro-intestinal phenomena appeared to be produced entirely by the condition of the small intestine. The femoral veins and tributaries were occluded. The vena cava inferior was a complete fibrous cord, shrunk and flattened out. When it was traced up between the kidneys there was found a great, firm thrombus, which had already undergone calcification. Then came the most interesting point in the case. On the surface of that calcified thrombus, and projecting up the occluded vein, with its base between the veins of the kidneys, was a fresh, newly-formed thrombus superadded upon it. These thrombi had extended into the renal veins, which were completely occluded in their paths towards the kidneys; and the greater number of the small branches in the substance of the kidneys were also absolutely and entirely occluded. By the second deposit of coagulum on the basis of the old thrombus, and its recent extension into both the renal veins, the fatal issue was brought about, accompanied by the uræmic phenomena of suppression of the urinary secretion, and the rapid development of general anasarca, which was absent in the earlier stages of the case.

Dr. WRIGHT asked, Was the condition of the heart examined?

Dr. DUFFEY said that Trousseau, in his lectures, dicussed the cause of phlegmasia alba dolens, and referred to a case in which there was a swelling of the leg, with a subsequent development of collateral circulation and engagement of the other extremity, attended with intense gastric irritability; and from his knowledge of other cases he predicted the existence of malignant disease of the abdomen, although there was no tumor or other symptom of such disease. Here the disease, though not of a malignant nature, seemed to be very similar to it; and, as far as he understood, the mere pressure of tubercular matter did not appear to have had any affect in causing the obstruction. Trousseau also spoke of extreme anæmia as a cause of phlegmasia dolens. He (Dr. Duffey) had a case in the City of Dublin Hospital of swelling of the leg, in which the only apparent cause of the disease was anæmia. There was a fibrogenetic condition of the blood, to which Trousseau attributed the obstruction of veins.

Professor PURSER said the chief point of

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interest appeared to be what effect the thrombosis of the renal veins produced on the secretion of urine. The idea generally held was that the quantity of urine secreted depended on the pressure of the blood on the renal capillaries. A remarkable case was recorded of a man in tolerably fair health, in whom an obstruction of the renal veins occurred, and in that case the secretion of urine was increased; but there was a good deal of doubt about the case, and it was important to know from Professor Bennett whether, when the uræmic symptoms commenced, and obstruction of the renal veins, as he believed, occurred, the secretion of urine increased or diminished to any marked degree. It was also important to know whether there was, previous to the occurrence of those symptoms, any albumen in the urine, and whether there was amyloid disease; for gastric irritation was not a common symptom in cases of mere tubercular ulceration of the intestines, particularly where it was so slight as in the present case. It was not improbable that the diarrhœa was due to degeneration of the blood vessels—amyloid degeneration—and, if so, the condition of the kidneys would not have been of such a kind as to make the change in the circulation of any value, one way or the other, as regarded the secretion of urine.

Professor BENNETT, in reply, said the heart was healthy; there was nothing whatever in its condition to call for description. There was no evidence of a tumor in the abdomen at any time. The thrombosis commenced apparently in the femoral vein, and there was no evidence of its having commenced higher up. During the latter days of the girl's life she was emaciated in the extreme, and it was impossible to collect the urinary secretion, or arrive at any details as to its quantity. But during the whole earlier periods of her ailments, and until what he had described as the last accident occurred, there was no albumen in the urine; and when the œdema suddenly developed she became unconscious and stupid, with occasional waking up and screaming, which phenomena he attributed to uræmic poisoning. There was no trace in the liver or spleen of any amyloid degeneration. The intestines were not examined for it, but there was nothing to lead them to suspect the existence of amyloid degeneration there either. The suddenness of the final attack of œdema drew his attention to the renal conditions; and then he examined such sample of the urine as he could get and found it albuminous. He felt justified in concluding that the fresh implication of the renal veins was the immediate cause of death; a week or so of it was, it seemed, sufficient to kill.

The Section then adjourned.

CHICAGO MEDICAL SOCIETY.

STATED MEETING, NOVEMBER 7, 1887.

The President, W. T. Belfield, M. D., in the Chair.

Professor J. A. ROBISON read a brief paper on the Treatment of Pertussis.

He said that since the discovery by Poulet in 1867 of a parasite which is probably the cause of whooping-cough, the disease has been treated by the local application of such germicidal agents as carbolic acid, eucalyptus, boracic acid, sulphur, illuminating gas, and resorcin. These had been applied by inhalations, insufflations, and sprays; but in many cases it is difficult to get children to allow the adminstration of the drugs; but he had used with success a solution of cocaine and resorcin in Semple's Atomizing Inhaler, the vapor being so fine that the drug is inhaled into the

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bronchial tubes without producing any laryngeal spasm. This method of treatment had been successful, not only in relieving the cough but in cutting short the course of the disease.

Professor F. E. WAXHAM said that he did not believe that we have a specific for the cure of this disease. He has tried sulphur fumigation thoroughly and considers it useless. He thinks that there are two indications to be met in the treatment of the disease — first, to destroy the bacilli as far as possible by means of germicides, as has been advised in the paper read; and second, to diminish the reflex excitability of the nervous system by the use of sedatives and tonics.

Professor G. C. PAOLI advocated the use of ergot in pertussis. In 15 cases it cut short the duration of the disease.

Professor JAMES H. ETHERIDGE read a paper on Vaginal Hysterectomy, with a report of three cases, which was given in the January number of the *Journal and Examiner*.

Professor C. T. PARKES, in discussing said that he was pleased with the paper, in that it introduces a method of controlling hæmorrhage that had been satisfactory to him a good many times. For this method we are indebted to Péan of Paris, who depends upon it on all occasions and in all operations. It is not an unusual thing to find a wound that he has made containing a dozen of these forceps. He never uses a drainage-tube. Professor Parkes says that he himself uses them in all operations where it is difficult to apply a ligature, and especially in removal of carcinoma of the rectum, on several occasions leaving a half dozen forceps, removing them in twenty-four hours, without subsequent trouble. He does not see the necessity of turning the uterus over, thus endangering the entrance of diseased tissue into the peritoneal cavity. The posterior wall is uncovered, the broad ligaments are exposed, and what necessity is there of turning the uterus over? These orceps will reach the top of it, and will include the broad ligaments on either side, and can be applied just as well with the uterus in position as if it were turned over.

Dr. D. T. NELSON desired to quote a word from Martin, of Berlin, spoken before the International Congress, where this subject was discussed quite fully. He advocates the operation strongly, and made the important point that the operation is not justifiable when the uterus is not movable. When the tissues above and about the uterus have become involved by the diseased condition, then the operation should not be done.

Professor C. T. PARKES reported a case of Nephrectomy. He said a patient had come under his care who, it was said, had been suffering for two years with cystitis, the diagnosis being based upon pus in the urine.

Upon examination, a tumor could be easily palpated in the right side of the body beneath the ribs, large enough to extend down to the superior spinous process of the ilium, and reaching up to the hypogastric region below the liver. The tumor appeared to be so elastic as to present some of the characteristics of a sac containing fluid. With an aspirator needle pus was detected. As the case presented none of the usual symptoms of a peri-nephritic abscess, it was diagnosticated a case of suppurative disease of the kidney, communicating with the bladder through the ureter. There was no apparent disease of the bladder itself, other than that which would be present as a consequence of the foreign substance in it.

In the operation an incision was made over the tumor outside of the erector spinæ muscle, and the tumor was exposed; then the pockets of pus in the organ were located by the hypodermic syringe. Three pockets of considerable size were opened, and drainage-tubes introduced. About a pint of pus was let out. It was decided that the three pockets did not communicate.

One of them opened freely into the

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pelvis of the kidney, and water injected into it went into the bladder, showing that there was a direct communication from this pus cavity with the bladder. The drainage-tubes were left in and the patient improved promptly, losing the fever and symptoms of pus accumulation and retention. For two weeks the improvement continued; then it was noticed that she began to fail rather rapidly and to show signs of fever again; there were signs of septic accumulation, and the tumor began to increase in size. As she was failing and the diagnosis was as complete as it was possible to make it, it was decided to perform nephrectomy.

There are some points of importance in the case: The drainage-tube that went into the pelvis of the kidney gave free exit to such a quantity of urine that it seemed almost the entire amount secreted by that kidney. There was also a free flow of urine from the bladder, and these facts led to the conclusion that the left kidney was not diseased and that the right could be removed.

Two or three hours before the operation was performed the patient was given gr. v. to x of quinine and gr. ¼ of morphine, to prevent shock, and the operation for the removal of the kidney was performed. The whole proceeding from begining to end occupied an hour, and she went to bed without any manifestation of shock, and with a pulse of 112. She had no rise of temperature until the second day, and then it rose to 100 F.; subsequent to that it fell to normal and did not rise above normal until the twelfth day, when other symptoms appeared. During all this time the wound was absolutely aseptic. It healed promptly by first intention, so that on the seventh day all stitches were removed.

The point of special surgical interest in the case was the manner of making the incisions. The commencement of the incision was two inches above the anterior superior spine of the ilium. It was carried in a curved direction downwards and backwards to the tip of the last rib. It was carried through all the tissues down to the fascia transversalis, everything having been carried forward out of the way, and with the finger the dissection was made well behind the tumor; all the parts were separated, then a straight incision made through all of them, straight back from the first incision and half way between the crest of the ilium and the last rib. The introduction of a ligature at the point of the posterior flaps and pulling them aside made an opening which admitted both hands.

By exposing the kidney completely, he could without difficulty reach the tissues which he wished to have under control.

As soon as the incision was made the tumor presented itself, and a finger could be carried around it in all directions so that the kidney with its blood-vessels, ureter and all were well exposed to view. Sixteen days after the operation the patient exhibited symptoms of cerebral trouble, with suppression of urine, and died with symptoms of uræmia.

At the time of the making of the report of the case no satisfactory miscroscopic examination of the tumor had been made, nor had the condition of the other kidney been demonstrated by the microscope. The post-mortem examination showed that it was congested and swollen, and ruptured capillary vessels in many places. Such examinations as had been made of several sections of it had not shown the presence of bacillus tuberculosis.

Dr. D. T. NELSON said that he was very much pleased at the doctor's instructions in regard to preparing the patient for these serious operations, and believed we have considerable to learn in that direction yet. He also suggested that the alimentary canal be prepared previous to such operations, and perhaps rendering it antiseptic or aseptic by emptying it and subsequently giving antiseptic drugs, preferably naphthalin in 5-grain doses, three times a day. He asked Professor Parkes if, in making

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the incisions, he is careful to preserve the capsule of the kidney and use that in facilitating drainage.

The president remarked that the fatal issue of this case through uræmia emphasizes the necessity for ascertaining the integrity of the opposite kidney before removing the one under suspicion; and mentioned the methods of obtaining urine of each kidney by cauterization of the ureter.

He said, it is questionable whether, for nephrectomy, or, indeed, all operations upon the kidney, chloroform is not preferable as an anæsthetic to ether, because of the decided renal irritation caused by the latter.

Professor PARKES, in closing the discussion, said that he considered the method of making the incisions superior to the old because of the increased freedom gained in getting at bleeding points caused by the enucleation.

In reference to Dr. Nelson's question as to whether he had cut down on the capsule, he said: "I am not positive whether I did or not. I pursued the course which I follow in removing all tumors, to cut down on the tumor and to get as close to it and as far away from the dangerous points as possible. I kept close to the surface of the kidney and away from the peritoneum.

"I do not know what would have been gained by Dr. Belfield's suggestion. This patient was secreting urine from the other kidney into the bladder; it was emptied out through the ureter and could be collected and examined just as well as if the ureter had been catheterized. In the first 24 hours the patient passed 7 ounces of urine from the bladder, in the next 24 hours 10 ounces, and so on up to the time of the occurrence of the unfortunate symptoms to which I have referred. The largest amount passed was 17.3 ounces in 24 hours. Up to that time there was nothing in the appearance of the patient that would make one think she was not going to recover. All at once the change and the end came."

NEW YORK ACADEMY OF MEDICINE.

A Discussion on Hernia—Treatment of Strangulated Hernia; Management Before Operation; Principles of the Operation — Conservative Treatment of Irreducible Hernia—Strangulated Hernia in Children—Telegraphic Mind-Cure.

At the December meeting of the Academy of Medicine there was a discussion on the subject of hernia. It was opened by Dr. T. HERRING BURCHARD, who gave an exposition of the modern treatment in strangulated hernia, and urged the advantages of early operative interference. He said that, encouraged by the remarkable success obtained in the treatment of strangulated hernia by the methods suggested by Mitchell Banks, Czerny, and others, surgeons had latterly paid special attention to the radical cure by operation, as applied to cases in which strangulation existed, and the results achieved had been gratifying. The modern operation found its greatest advantage in the radical cure it secured by the complete closure of the sac and the permanent obliteration of the canal; and it had been successfully performed upon all forms of hernia—inguinal, femoral, and umbilical—with equally satisfactory results. In the light of these facts he thought that no operation for strangulated hernia could be said to be properly performed without the final closure of the inguinal canal.

With regard to the management previous to operating Dr. Burchard said that his experience had led him to the adoption of a plan of treatment substantially as follows:

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1. Pain is allayed, vomiting quieted, and nervous tranquility secured by the hypodermic administration of morphia and atropia.

2. As soon as practicable a careful examination is made of the hernial tumor, any attempt at reduction being studiously avoided.

3. If evidences of inflammation are found, or if there is much swelling in the tumor, a poultice of flaxseed meal and cracked ice, or the ice-coil, is at once applied; these being dispensed with, however, if the patient is feeble or the strangulation is of long standing.

4. A stimulating enema of turpentine and oil, or a large emollient one of flaxseed tea, is administered and the rectum thoroughly washed out. If the tumor is at all distended no attempt at taxis is made until.

5. The patient is anæsthetized, permission having first been obtained to proceed with the operation in case taxis should fail.

He especially emphasized the advantages to be gained by putting the patient under full anæsthesia (preferably by chloroform), covering the tumor with a rather large and heavy ice poultice, elevating the lower extremities, and keeping the hands entirely off for a period of from thirty to forty minutes. In a number of instances, he said, he had had the satisfaction of seeing the tumor slip back of itself, almost imperceptibly, even after prolonged taxis had been unsuccessfully employed. As to just how long the attempt at reduction was justifiable, no absolute rule could be laid down. In some cases it was advisable that the trial should be kept up for twenty, or even thirty, minutes, provided always that only the most gentle manipulations should be employed.

Taxis having proved unsuccessful, the operation should at once be undertaken, and the general principles upon which, as a legitimate surgical procedure, it was based were the following:

1. A more general recognition by the profession of the value of time in the earlier stages of strangulation, so that surgical relief could generally be rendered before pathological changes which were irremediable had taken place in the tissues.

2. Modern herniotomy implies an abandonment of those uncertain and pernicious methods and practices which, founded in a false pathology, sought to relieve the strangulation by producing a condition of systemic relaxation. It is now recognized that spasm, as a causative agent in the production of strangulation, never exists.

3. Modern herniotomy restricts the employment of taxis within limits which are rational and safe. Necessary as properly directed taxis is in the reduction, by its indiscriminate and reckless use irreparable damage has not infrequently been done the intestine.

4. Modern herniotomy implies the early resort to a cutting operation. Many lives, Dr. Burchard said, had to be sacrificed before the profession seemed to realize that the gangrene and ulceration, the fœcal extravasation and stercoraceous vomiting, the peritonitis and collapse, were not necessary and integral factors of the primary condition of strangulation, but secondary complications, developing later on in the progress of the disease, and the legitimate result of delay in affording relief to the original constriction.

5. Modern herniotomy is an antiseptic operation, demanding the fullest application of Listerian principles.

6. Modern herniotomy requires in the disposition of the hernial sac the finest impartiality of judgment. Certain cases require incision, while in others the strangulation can be readily reduced without opening the sac; so that it would be folly to thus complicate the operation and expose the patient to unnecessary danger.

7. Since Mitchell Banks, of Liverpool, has urged the possibility and expediency of perfecting the old operation of kelotomy, so as to add to the operation done for the

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relief of strangulation the inestimable advantages of an operation for radical cure, the strongest possible encouragement has been given for the attainment of an early, thorough, and perfect operation.

Professor V. P. GIBNEY said that he should like to make some protest against the strong condemnation of taxis which Dr. Burchard had expressed, as he had seen a number of aggravated cases of strangulated hernia reduced under taxis as employed by the average practitioner.

Professor ROBERT F. WEIR remarked that while the radical operation unquestionably marked an improvement in this field of surgery, it could not as yet be regarded as a perfected operation; and, having given some statistics showing the comparative frequency of relapses, he said that surgeons were everywhere practicing the operation, and he feared too freely—that is, too freely in non-strangulated hernia.

Dr. W. B. DE GARMO read a paper on the conservative treatment of irreducible hernia, which did not treat of strangulated hernia, but advised a course of gentle manipulations in cases which were generally regarded as irreducible. The first thing to do, he said, was to get the mass freely movable in the sac, and then use compression, rather than ordinary taxis. In the second place, the tumor was to be separated from the vicinity of the testicle, if it was situated in the rectum. In other words, it was to be perseveringly stripped from its lower adhesions, and gradually worked upwards, no force whatever being used. The complete separation of the omentum, so frequently forming a part of the mass, was accomplished before the reduction proper was commenced. By taxis he explained that he meant the gentle manipulation of the neck of the sac, but employed in such a way as to avoid pressure back against the abdominal rings, which was apt to be resorted to in taxis as commonly practiced. The manipulations were to be kept up for from fifteen to forty-five minutes at a time and repeated once a day. In some cases he was in the habit of directing self-applied taxis. After the reduction the hernial sac usually remained, but if the hernia was kept properly in place by a well-fitting truss, the sac often disappeared in the course of time. Out of ten cases reported by Dr. De Garmo, there were seven reductions and two failures; while one case was abandoned on account of the patient's having diabetes.

An interesting part of the discussion was that in reference to strangulated hernia in children. Dr. A. G. GERSTER read a paper on this subject in which he reported four cases operated upon, and said that there was one point of difference in the treatment required as compared with that in adults; this being due to the difficulty of preventing infection of the external wound in small children. Primary union did not occur after suturing, and he therefore advocated an open treatment of the wound. It was his practice to pack it with iodoform gauze in order to secure an aseptic condition.

Professor WEIR said that he had had two cases in children, like those of Dr. Gerster, in which he operated; and both had proved fatal. In two other cases he had successfully reduced the hernia without operation, by resorting to the expedient of inserting the finger into the rectum, and thus combining internal with external pressure.

Professor GIBNEY, who has had an unusually large experience in the matter at the Hospital for Ruptured and Crippled, said that he did not recall a single instance of strangulated hernia occurring in childhood in which it was not possible to reduce the strangulation with the aid of chloroform. Furthermore, he believed that if the hernia could be reduced in children, it could be cured simply by the wearing of a suitable truss. As, in addition, the operation was a more serious one than in adults, he thought that operative interference should never be resorted to in children; and such interference became all the more unnecessary in the light of the successful results accom-

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plished by the conservative methods advocated by Dr. De Garmo.

In concluding the discussion Dr. DE GARMO said that he had met with only temporary incarceration in children. No serious results had ever occurred in his experience, and he had never found it necessary even to resort to taxis in such cases.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

In an address before this society, by Dr. W. T. COUNCILMAN, of Baltimore, Maryland, on Some Further Investigations on the Malarial Germ of Lavaran, he said:

This organism, first described by Lavaran, has been met with in every case of malarial fever which the writer has met with. The organism is in high degree polymorphous, and ten tolerably distinct forms may be found in the blood. Some of these evidently represent different stages of development, and the connection between them is obvious. Others present such marked differences in form that no connection between them can be made out. Some of the forms are only found outside of the red corpuscles, and others are found free in the blood. They are, 1, non-pigmented small amœba-like bodies inside the red corpuscles; 2, pigmented bodies larger than No. 1, also in red corpuscles; 3, pigmented bodies about the size of red corpuscles; 4, segmenting forms of the No. 3 body; 5, small hyaline bodies, which are formed by this segmentation; 6, a crescent-shaped body with pigment in the centre, the horns of the crescent being often connected by a fine line; 7, round or oval bodies which differ from No. 6 in shape only; 8, a pigmented body provided with numerous long, actively moving flagellæ; 9, actively moving free flagellæ, which are evidently derived from No. 8; 10, a pigmented body with an active undulatory movement of its periphery. The first five forms are found only in intermittent fever, No. 4 only being seen in the blood during the chill period, and its presence is invariably connected with the chill; Nos. 6 and 7 are found in cases of malarial cachexia.

The most interesting forms, and about whose parasitic nature there can be no doubt, are the bodies Nos. 8 and 9. These are generally absent in blood taken from the finger, but they may be found in any type of the disease. They are the only forms of the organism whose presence in the blood is not associated with a special type of the disease. They were found, however, in fifteen out of the twenty cases in which the blood of the spleen was examined. Of these twenty cases twelve were cases of malarial cachexia, and eight of intermittent fever. In the twelve they were found ten times and in the eight cases of intermittent five times. From this it seems probable that Lavaran was right in considering the flagellate organism the most important form of the parasite. The influence of quinine on the intracorpuscular forms of the parasite is most marked. Doses of 15 grs. t. i. d., for two days in succession, were found sufficient to cause them to disappear. The effects of the quinine were not so apparent in the other forms. The crescents were apparently not diminished in number in one individual after he had taken 45 grs. of quinine daily for seven days, and 60 grs. daily for four days.

Professor WM. OSLER said the thought which had struck him most forcibly, in looking over this subject, was the almost perfect unanimity which has prevailed among the different observers as to the appearance of these organisms. With the sole exception of the segmented form (No. 4),

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Lavaran and the early observers had described them all. His own observations, since the communication he had presented to the Society last year, had been somewhat limited. He had, however, made a series of observations upon the blood of fishes and birds, since it had been stated that bodies resembling Nos. 1, 2, and 3 had been found in the blood of carp and some water-fowl. Professor Baird had offered him facilities for this work at Wood's Holl, and had kindly furnished him with forty-five carp. He had failed to detect any such organisms in the blood of these. In the blood of a goose sent him from Ontario he had found one or two pigmented bodies. It had been stated by Dr. McCallum, who sent him the goose, that the bird had malaria. However, the bodies were not numerous, nor was the temperature of the goose elevated, nor, so far as he could make out, had it chills. Dr. Councilman had not figured one body that is very peculiar indeed, namely, a solid body in the centre of a clear space. It stains like a micro-organism, varies in size, and although the body itself does not change in form, yet there are sometimes changes in outline in the clear space surrounding it. They were somewhat abundant in one case only.

With regard to the clear bodies (No. 1), he said, in five or six instances he had seen such bodies pass out from the corpuscle, remaining out and undergoing no further change of form. He was not altogether prepared to say what was the relationship of these bodies to the other bodies described. It has been claimed that similar changes can be obtained by special methods of treating the blood. The most important question is first to determine the relationship of the hyaline to the pigmented bodies, and the possibility that the hyaline may not be directly associated with them. He was convinced that the pigmented and segmented bodies were merely different stages. He could fully confirm what Dr. Councilman said with regard to the crescents. They are most peculiar and interesting bodies, occurring in the chronic cases and in those in which there had been no chills. Three weeks ago he had diagnosticated a case as one of mild typhoid fever; it had lasted eight or ten days, with constant fever, up in the evening, down in the morning; slight enlargement of the spleen, no spots. His resident examined the blood and found what he thought were crescents. The case got rapidly better, left the hospital, and returned in a few days with a distinct chill, with crescents in the blood and a well-marked remittent fever. The mobile forms he had not seen nearly as frequently as Dr. Councilman; though he had not examined the blood from the spleen they had been present in eight or ten cases. Nor had he seen free filaments nearly so often; when he wrote his paper he had not seen them at all. Since then he had watched the process of separation. It was out of the question to suppose that the crescents or mobile forms could come from degeneration in the stroma of the corpuscle, but that the hyaline forms resulted from such changes was not altogether improbable; and further investigations were necessary to determine this point.

Dr. J. P. C. GRIFFITHS called attention to the diagnostic value of these organisms, and instanced a case where, from the indefinite history and symptoms, he was unable to make a diagnosis until after an examination of the blood, when a short course of treatment resulted in recovery.

Professor H. C. WOOD said that no one seemed to have made any connection between the crescents and the amœboid forms; they seem to differ in that these are destroyed by quinine, those are not affected. We know that malarial cachexia is cured by quinine, arsenic, and iron. If these remedies have no effect on the crescents, what connection have these bodies with malaria, and what becomes of them—do they eventually disappear?

Dr. FORMAD asked if these organisms are

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the same as described by Hütter some twenty years ago.

Dr. COUNCILMAN said, in conclusion, that Hütter described moving bodies attacking the red corpuscles, existing in all fevers and apparently almost everywhere else. These observations had never been confirmed. The point raised by Dr. Wood had always puzzled him, and for a long time he had tried to reconcile himself to a belief in two distinct diseases, but this he could not do, as always as the other forms disappear the crescents appear. He had never seen the crescents unless with a history of previous chills. He was not altogether prepared to say that quinine had no effect on the crescents, though in several cases he had given it in large doses with no results. Still in some cases they do seem to disappear. He thought with Dr. Osler that the crescents could not be possibly produced by changes in the stroma of the corpuscles, though some of the other forms might.

THE INTERCOLONIAL MEDICAL CONGRESS OF AUSTRALASIA.

The first Intercolonial Medical Congress was opened in Adelaide on August 30, under the Presidency of J. C. Verco, M. D. (Lond.), F. R. C. S., Eng.

Secretary's Report.—Dr. Poulton read the report, which stated that this Intercolonial Medical Congress of Australasia was the outcome of a suggestion made by the council of the South Australian Branch of the British Medical Association at the annual meeting held in June, 1886, that a medical congress might well take place during the jubilee of Her Majesty's reign, at a time when the colony of South Australia would be celebrating the completion of the first fifty years of its history, and during the term of the International Exhibition in Adelaide. The members of the branch heartly concurred in the suggestion, and being the only organized medical society in South Australia, forthwith appointed a committee to co-operate with the council in formulating the scheme of such a congress, and in inviting the co-operation of the profession throughout the Australasian colonies. The joint provisional committee consisted of Messrs. Cleland, Clindening, Corbin, Hayward, and Drs. Gardner, Poulton, Stirling, Davies Thomas, Verco, and Watson. Numerous promises of support were received from representative members of the profession in the various colonies, and the council of the University of Adelaide generously granted the use of their halls. The presidents of all the medical societies of Australasia had become vice-presidents of the congress. Special delegates were present from the New Zealand Medical Association, from the Universities of Sydney and Melbourne, and from the Medical Societies of Sydney, Melbourne, Brisbane, Ballarat, and Sandhurst. The number of members present was 155, and included practitioners from New South Wales, Victoria, New Zealand, Queensland, South Australia, the Northern Territory, and Fiji. The work of the congress would be conducted in the four main sections — medicine, surgery, gynæcology, and state medicine — under the presidency of Dr. Williams, Mr. Fitzgerald, Mr. Foreman, and Dr. Whittell, respectively.

Official Welcome.—His Excellency, the governor, then welcomed the Congress to Adelaide in an appropriate speech.

President's Address.—The President (Dr. Verco) delivered an address, in which he mentioned the various reasons why Australian professional men should meet in congress; these were especially that they might make common property of the facts peculiar to Australia which had been observed in disease, of the methods which

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had proven most appropriate in their hands, of the new remedies nature had provided, of suggestions relating to medical ethics or legal status arising out of colonial life, and finally that an opportunity might be afforded to those far away to contribute their unique or exceptional experiences for the general interest, and to reap the pleasure and profit of that social and professional intercourse which was so rarely theirs. He dwelt on the pharmaceutical and balneological novelties which Australasia might be able to afford, and on the climatological peculiarities which might not only be of use in the treatment of disease, but were actually modifying the physical type. "I have," he said "measured 300 South Australasian immigrants from the old world; they stand 5 ft. 7.13 in., and weigh 146.58 lbs. I have contrasted with them 259 South Australians born in this colony; they average 5 ft. 8.21 in., and weigh 146.42 lbs. Our native population are therefore exactly an inch taller than their forefathers, and within the fraction of a pound the same weight. What is the significance of these facts? That our southern climate, our social circumstances, our mode of life, are altering the physical constitution of the healthy man, of the growing child, and giving him a taller and more slender form."

Votes of Thanks.—A vote of thanks to the governor was proposed by Dr. Stirling and seconded by Dr. Wilkinson, M. L. A. (Sydney), and duly acknowledged. A vote of thanks to the President for his able address was moved by Archdeacon Farr, and seconded by the chief justice.

SECTION OF MEDICINE.

President's Address.—Owing to the illness of Dr. Williams, his address on the advances of modern medicine was read by Professor Allen. The chief feature of modern medical work was the attempt to grasp the natural history of disease. Dr. Williams thought that a thorough sympathy, an active co-operation in inquiry, between physician and pathlogist, which shall lead each to assist, to verify, to correct the work of the other, were needed. The causes of disease, the influence of family tendency and of personal surroundings, the connected history of patients from birth to death, the questions of idiosyncracy in treatment, all these formed the domain of inquiry for the private practitioner. In these matters, too, the county physician had more accurate and continuous knowledge of his patient; he dealt with questions in simpler form, and hence his observations might be most valuable. Without doubt, the present isolated professional life of the bulk of country practitioners involved a grievous waste of useful knowledge which should be conserved for the general good. He expressed approval of the system of collective investigation.

Papers.—During the Congress the following papers were read in this section: Fear as a Factor in Producing many of the Alarming Symptoms following the Bite of Australian Snakes, by the Hon. J. M. Creed, M. L. C. (Sydney); Some Remarks upon the South Australian Climates, and their Influence on Phthisis, by Dr. Astles, M. D. (Adelaide); on Grindelia Robusta, by Dr. Dixon, M. B., Lecturer on Materia Medica at the Sydney University; Hydatid Disease of Brain, J. Davies Thomas, M. D.; Tuberculosis, F. W. Elsner, F. R. C. S. I.; Hydatid Disease (a case), J. W. Springthorpe, M. D.; Anæmia, J. Reid, M. D.; Epilepsy (cases), J. W. Springthorpe, M. D.; Dilatation of Stomach, F. W. Elsner, F. R. C. S. I. Some interesting notes on modification of symptoms in Central Australia were laid before the Congress by Mr. J. P. Baker, F. R. C. S., of Strangways, South Australia.

New Zealand Thermal Waters.—A paper on the Thermal Springs District of New Zealand and the Government Sanitarium at Rotorua was submitted by Dr. Ginders, of New Zealand. After dilating on the delightful climate of Rotorua, Dr. Ginders mentioned that the thermal springs district

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of New Zealand comprised an area close on 1,000 square miles, and its altitude ranged from 1,000 to 2,000 feet above sea-level. No spring had obtained a higher reputation than that known as the Priest's Bath. The character of the water was sulphurous, aluminous, and strongly acid; and its temperature varied from 98° to 106°.

SECTION OF SURGERY.

President's Address.—The address to the Surgical Section was delivered by Mr. T. N. Fitzgerald. After referring to the extraordinary advances made in medicine within the memory of living men, he said Australian surgery possessed two peculiar features—(1), the prevalence of hydatid disease; and (2), the absence of rachitis. A student might go through the whole of his curriculum without witnessing a genuine case of rickets. Professor MacEwen, in Glasgow, a town whose population was not greater than that of Victoria, recorded his thousandth operation for genu valgum. Mr. Fitzgerald ventured to say that, if the whole colony was searched, not five cases suitable for operation would be found. The Australian child, even emerging from the lowest den, was straight-limbed and level-featured. A neglected club-foot might possibly be met with, and occasionally chronic hip-disease was seen; but rachitis and bone distortions arising from other causes than fracture were almost unknown.

Papers.—The following papers were among those read in this Section: Case of Scrofulous Pyelonephritis, Removal of Kidney by Langenbeck's Incision; Lumbar Drainage, Recovery, by Dr. H. W. Mansell, M. D. T.C.D., Honorary Surgeon of the Dunedin Hospital; Hydronephrosis, Removal of Kidney, Recovery, by Dr. Jell, Wellington, New Zealand (read by Dr. Closs). Demonstration and illustration, by Dr. Mansell, on (*a*) the use of carver's tools in hard cleft palate; (*b*) a demonstration enterectomy; (*c*) extroversion of bladder; (*d*) removal of foreign body from the bladder by suprapubic operation; (*e*) a method of radical cure of femoral hernia. Extirpation of Larynx, by Dr. W. Gardner; A New Method of Drainage after Abdominal Incision, by Mr. O'Hara; Ophthalmic Papers (two), by Dr. Symons; On Operation in Compound Depressed Fracture of the Skull, by Mr. Muskett.

SECTION OF GYNÆCOLOGY.

President's Address.—The address was delivered by Dr. Forman, of New South Wales.

Papers.—The following papers were read: History and Progress of Ovariotomy in the Australian Colonies, by Dr. Pinnock, M.B., etc, (Ballarat); Oöphoritis and its Relation to Oöphorectomy, by Dr. J. O. Closs; On Shortening the Round Ligaments, by J. Foreman, M.R.C.S.; The Alexander-Adams Operation, by Dr. W. Gardner.

SECTION OF STATE MEDICINE.

President's Address.—Dr. Whittell referred first of all to the evidence taken by the commission appointed by the New South Wales Government to inquire into the law respecting the practice of medicine and surgery in that colony, and the revelations and confessions were astounding. He then discussed the means of preventing the importation of infectious diseases. The Northern Territory and Queensland, he observed, lay dangerously near to thickly populated countries which were seldom or never free from small-pox. The Chinese from those countries kept up a constant immigration into the northern ports, and it was possible that a patient might become infected with small-pox in Hong-Kong or Sumatra, might sail to the Northern Territory, land there, mix with the population, and be lost sight of before the outward signs of the disease became manifest. He said that a station was required at Port Darwin, where the strictest investigation should be made, and where no vessel should be allowed to pass on until all risk of its

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bringing infection should have ceased. He also pointed out that it would not be safe to trust to inspection alone, but that vaccination ought to be systematically performed.

The State, the Practitioner, and the Public.—Dr. Stirling delivered an address, in which he stated that though to some extent the contentions of the profession through the medical associations in Great Britain and Australia to induce the legislature to undertake the control over certain matters in which the medical profession were peculiarly interested, had been carried into effect, there were still many points on which practitioners had not received the consideration they deserved. He urged, first, that the state should accord protection to qualified practitioners only, and should at least discourage, if it did not entirely prohibit, practice by unqualified persons; secondly, that the assumption of professional titles and qualifications by persons possessing none should be punishable; thirdly, that medical certificates as to the cause of death should be received only from duly qualified medical men; fourthly, the definition of a qualified practitioner should be more strict; fifthly, that the authority which determined the issuing of a certificate of registration as a legally qualified practitioner, should equally have the power of canceling or suspending them.

Dr. Bickle, in a paper on the Relation of the Profession to the Public, referred especially to the abuse of clubs.

Dr. Abramowski agreed with Dr. Stirling's suggestions.

Dr. Jameson said that a person desiring to practice in Victoria was obliged to produce satisfactory credentials of having studied a proper length of time, and that he possessed the necessary qualifications, before he was registered.

The Hon. Dr. Creed said that in New South Wales practically no law to control the practice of medicine existed. Quacks could not be prevented from practicing, but people should be informed exactly with whom they were dealing.

Tests of Vision.—Dr. James Rudall delivered an address on government responsibility in regard to sight-testing for land and sea service, and gave as his conclusions that it was the duty of the government to pass laws which could not be evaded, to ensure the public safety in traveling.

Cremation.—The Hon. Dr. Creed, after referring to the advantages of cremation, said that he thought the object of the advocates of cremation would be best carried out by the establishment of societies for the purpose in all the colonies. The duty of such societies would be to detect and bring before the public any instances of danger to health which had been created by the burial of bodies in unsuitable cemeteries; to disseminate literature giving information on the subject amongst the people; to provide, in due time, fitting apparatus for carying out the process; to advocate the passing of laws to ensure its being done without shock to the sensibilities of those persons whose prejudices prevented their being favorable to it, and to provide regulations which would prevent it, in some rare instances, being made a means for the concealment of crime. In this way public thought would be so educated by example that in a very few years cremation would become as general and as much desired by the majority as burial is at present. A danger to health would be removed, and he thought they would agree with him in believing that refined sentiment would be better conserved than it was at present.

Entertainments.—In the afternoon of the first day (August 30) the mayor of Adelaide entertained the members of the Congress at luncheon, and in the evening a *conversazione* was held in the University. On September 2 (the last day of the Congress), the President and South Australian members entertained the visiting members and many distinguished guests at a public dinner.

Next Congress.—It was decided that the next Congress be held in Melbourne, in 1890, or at such time as the medical so-

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cieties of Victoria shall determine. The Hon Dr. Creed (Sydney) proposed that Mr. T. N. Fitzgerald, of Melbourne, should be the President-elect of the Congress, and in doing so paid a tribute to the value of Mr. Fitzgerald's work. Dr. Gardner (Adelaide), in seconding, said he knew of no gentleman who was more fitted to hold the position. The motion was carried with acclamation. Mr. T. N. Fitzgerald (the President-elect) briefly thanked the meeting for appointing him to such a responsible position, which he would undertake with great pleasure.

THE GERMAN SOCIETY OF NATURALISTS AND PHYSICIANS.

NATURAL SCIENCE IN SCHOOLS.—At the annual meeting of the German Society of Naturalists and Physicians, Wisebaden, September, 1887, Herr Preyer (Wilhelm) read a paper on Natural Science and Schools. He maintained that (1) the laws of biology are violated by the forced intellectual development aimed at in schools as at present conducted; and (2) that the study of Latin and Greek is unnecessary and unprofitable, takes the place of objective and useful studies—for example, the natural sciences—and is altogether a painful infliction upon the young. The idea that modern culture rests upon a historic continuity with the classical ages, is based upon a self-deception; that continuity has been already broken by Luther, by Galileo, by Copernicus (and he might have added, by Isaac Newton). "The armies of Germany, not book-learning, have made her great." (!) Herr Preyer is on safe ground when he dilates on the injurious effects of school life in Germany upon the development of the body as a whole. Its harmonious growth is retarded and deranged by the artificial restrictions, the want of exercise, the over-studying (more than half the students are more or less short-sighted), and various other injurious influences. We are more fortunate in this respect in England, at least as regards outdoor exercise and medical supervision, but the natural sciences are still almost ignored.

ORIGIN OF SPECIES.—Professor Virchow next delivered an address dealing with the Darwinian theory. Darwin released the world from Cuvier's dogma of the unalterability of species; the species as a real object does not exist; only the individual exists. The individual is made up of organs. Now, if the species were unalterable, then individuals, like the separate parts of a crystal, would exactly resemble each other. But no one demands this, and, in fact, only the average of the special attributes of various individuals is required to characterize the species. The individuals are the more variable, as the number of their organs is greater. The variability of the individual is the foundation of the variability of the species. Virchow is not antagonistic to the theory of Darwin, but only to the excursive tendency of his disciples, especially as regards the acquirement and heredity of variations. Referring to the origin of life, the doctrine that it has always existed on the globe is pronounced false. There was once a time when nothing living existed. The Bible account of the creation, and the theory of primitive generation and evolution, were opposed to each other. The latter was only a presumption, a claim, of natural science. The sources of such generation were unknown to us, and Pasteur had refuted the idea that organic matter could arise from an agitation of inorganic matter. Darwin's idea was, nevertheless, a highly fruitful mental conception, an energetic ferment in the scientific world. Both Haeckel and Vogt had allowed that life might have originated on the earth in more ways than one. As regards the origin

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of man, the first man could only have existed towards the end of the Tertiary period, or the beginning of the diluvium deposits, for no remains of man had been found in earlier formations. A few flints, bearing evidence of being shaped, were all we had of man even in the Tertiary series. It was not till the alluvial deposits were reached that human bones were found, and these were not so numerous as was supposed. The skull from the Neander valley, and the lower jaw from the Schipka cavern, gave no distinct evidence of a lower grade of organization than the present. The (evolutionists) "fanatics" rejoiced in being able to assert that these remains indicated a man corresponding to a living Australian native, but the latter, after all, was neither an ape nor a pro-anthropoidal man. The question of the origin of man was, in fact, an insoluble problem. In regard to the formation of the human race, the theologians and the natural science enthusiasts (*Fanatiker*) were of one mind; they both pre-supposed a primitive pair of individuals.

PLANT-LIFE AND PLANT-RESPIRATION.—Professor Detmer, of Jena, gave an address on Plant-life and Plant-respiration, and showed that many vital processes are common to animals and plants—for example, respiration (intra-molecular), digestion, and even the development of heat. The professor pleaded earnestly for an extension of natural-science teaching as advocated by Preyer. Such teaching did not have a materialist tendency, as generally supposed; on the contrary, it tended towards the ideal, if more weight was laid upon the vast connection subsisting between natural phenomena than upon experimental details.

PUTREFACTION AND INFECTIOUS DISEASES.—The address by Dr. F. Hueppe, of Wiesbaden, was perhaps the most interesting for the medical world. The title was: On the Relations between Putrefaction and Infectious Diseases, and the author began by a pithy and lucid historical sketch, extending from Hippocrates (of course) to the present time. In the course of this sketch we are reminded that Pringle and J. P. Frank, in the eighteenth century, declared that "putrid fevers" were due to putrefactions going on external to the organism, and Pringle recognized a relationship between epidemics of such fevers and the depth of the water level below the surface of the ground. Previously to this, if we except Frascatori in the Middle Ages, scarcely any attention had been directed to external influences from the time of Hippocrates, and, after him, of Diodorus. As for putrefaction itself, the idea that this was caused by the growth of low organisms was never even broached till the present century. The old view was that the term "life," connoted the absence of putrefaction, apparently because the healthy body resisted invasion by pathogenic germs. Against this view Henle strongly set himself, taking for his basis the investigations of Schwann and Cagniard Latour as regards *infusoria*, and those of Bassi and Audouin on infectious diseases. In fact, Henle's ideas were very advanced, for he thought that infective diseases were due to germs starting from without, and that these germs were due to putrefaction. Further, Henle ventured to argue that "it depends on special conditions what kinds of *infusoria* and plants develop, and the different kinds are not equally inimical to health." The natural development from this is that the living tissues resist pathogenic organisms during health, but that if this resistance be overcome the invading organisms develop, and decomposition goes on within the body, much as in external putrefaction, only modified in form and derivation by the tissues; and this conclusion has been confirmed by the investigations into the chemistry of bacteria by Nencki, Gautier, Selmi, and, above all, Brieger. Pettenkofer made a further step forward, for he divided the still hypothetical "infectious material" into entogenous and ectogenous. But his conceptions were too absolute. Pettenkofer held that the germs of infectious diseases were discharges from the body in

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an unfit, ineffective condition, and that only after a process of ripening outside the body could they again produce the original disease. We know that the case is otherwise; that, as a rule, such germs are most effective when discharged from the body, and that they do not acquire increased vigor from contact with mother earth, as certain heroes of old did, but rather tend to lose vigor and gradually perish. Nevertheless, we owe Pettenkofer a great debt for so early recognizing that many disease-organisms do go through certain stages of development outside the body—in some cases, as in the spore-formation of anthrax bacilli, only outside it. Our knowledge now begins to be more precise regarding disease germs. Pasteur definitely established the fact that putrefaction and fermentation processes are due to the growth of the respective organisms. Next, as regards disease, F. Cohn put all the disease-producing organisms in one class apart. Davaine had already shown that anthrax bacilli were excitants of ordinary septicæmia. Koch taught us the isolation and cultivation of bacteri, and Panum showed that putrid fluids may act as poisons even when no organisms are present. By this last step, previous pathological conceptions were etiologically fixed, and "putrid intoxications," due to poisons elaborated by bacteria, were distinguished by diseases caused by the entry and development of the specific bacteria themselves within the system. It was afterwards shown that the system could be intoxicated from within by bacteria. To go back for a moment to the beginning of our own century, Majendie's researches deserve mention here, because he showed that certain substances were developed in septicæmias (in animals), which, when transferred to other animals, set up a similar disease. Semmelweiss, "the well-known gifted founder of aseptic surgery," extended this observation to man, and by his success in the treatment of puerperal fever was the first to establish a beneficient prophylactic therapeutical system. It will be seen that many problems regarding disease-producing organisms were only rendered possible of solution through the attempts of Pasteur, Hallier, and Klebs—acting with ideas contrary to those of Cohn, who placed all such organisms in one class—to cultivate and separate the different kinds of bacteria, attempts which Koch carried on to a glorious frution. It is now known, as regards a whole series of pathogenic bacteria, that they possess a saprophytic stage, and that their "parasitism" in the human body is not at all necessary to their existence as species, but only accidental, a view which Henle and Pettenkofer from epidemiological considerations had already strenuously advocated. Such is the substance of the historical sketch given in this remarkable address; the rest of which deals with recent systems of classification of bacteria, and of the diseases arising from them, a large part being devoted to the various organs of the body, as they are mainly involved in different diseases, especially cholera nostras, and cholera Asiatica. As regards this part, we have no space for further representations of the author's views, but some concluding remarks may be given as reflecting creditably on hygienic medicine in this country: "As long as a circulation of material goes on, as long as putrefactive processes are necessary as affording an intermediate stage between animal and plant life, so long will micro-organisms exist, adapted for the destruction of albumen, or by an alteration of the processes for albumen putrefaction. And so long as this occurs, organisms will continue to exist, which, owing to this adaptation, are capable of setting up disease in the human body. We can never altogether conquer putrefaction — *tamen usque recurret.* But if — to quote Lord Palmerston — we regard dirt as only something in the wrong place, and regard putrefactive processes in our immediate neighborhood as in the wrong place, because uncontrolable and dangerous, we are then

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able to fight with those processes and their dangers without sacrificing the necessary processes for the circulation of material, together with their advantages. * * * Let these processes go on in the *humus* of the garden and the field, the meadow and the forest, where proper adaptation for plant life exist. * * * I adopt the English conception, which regards cleanliness — not a mere facade cleanliness, though—as health itself, and the best means of fighting against infectious diseases."

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

NOVEMBER 16, 1887.

The President, Dr. John Smith, in the Chair.

THE ÆTIOLOGY OF TUMORS.

Dr. SIMS WOODHEAD, in introducing a discussion on this subject, referred to certain observations which he had published some three years before, and remarked that the intervening time had only strengthened his previous conclusions. The doctrines first promulgated by Cohnheim were not sufficient to explain all the facts with which they had to deal. A careful study was rehearsed of the growth and development of the ovum, and the changes undergone by the different layers of the blastoderm. Some form of irritation or stimulation was necessary for the segmentation process. When this irritation became proportionately greater than the nutrition afforded, reproduction occurred without specialization. The tissues derived from each of the three layers of the blastoderm differed in respect of rate of development, and their several anabolic and catabolic phases were not contemporaneous. Hence the chances of disturbance were greater at different times in each of the groups. This suggested an explanation of the fact of the greater frequency in young subjects of tumors of the connective—tissue type, in adult life of mixed non-malignant tumors, and in old age of tumors of the epithelial type. While imperfect nutrition undoubtedly led to cell proliferation, the presence of an irritant in some form was to be postulated. They had also to recognize the existence of a hereditary tendency to tumor production, the special type depending on the age of the individual's parents, and the state of equilibrium of their tissues at the date of the individual's conception. Such a tendency, accentuated by passage through a succession of generations, might ultimately result in the establishment of a diathesis.

Professor CHIENE cited a large number of interesting cases in illustration of the thesis. He maintained that malignant tumors had their origin in some local irritation or injury. They must give the word irritant a wide significance.

Dr. JAMES was inclined to agree with the view advanced by Dr. Woodhead, and congratulated him on the biological soundness of his carefully elaborated generalizations.

Dr. DUNCAN said in such a discussion they must separate clearly between simple tumors proper and malignant growths. The former had their explanation in teratology, while malignant tumors were distinctively intrusive. They were probably zymotic in origin, and had their analogies in inflammation, tubercle, and syphilis. Probably it would be found that they were due to the action of micro-organisms, as had been fairly well demonstrated in the case of the three processes to which he thought them analogous.

Dr. BELL spoke of the clinical significance of injury, and referred to the popular idea that, for example, in the case of the mamma, tumor-formation was traceable to a blow or other injury.

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MEDICAL SOCIETY OF LONDON.

MEETING, DECEMBER 5.

Dr. STEPHEN MACKENZIE gave a demonstration of the Filaria Sanguinis Hominis in blood and urine, and read a paper on a case in a patient under his care. He also went very minutely into the natural history of this insect, and as to whether or not it passes through the intestinal tract of the mosquito, en route for the human lymphatics. Interesting as were these remarks they had not, of course, that novelty which gave this branch of research its exceeding interest some years since. Dr. Mackenzie has had one or two very able predecessors in this department, but this has not prevented his adding to our knowledge of the subject.

Dr. THOROWGOOD read a paper on "Cardiac Failure in Pulmonary Obstruction." He had obtained very good results with tartar emetic to relax the capillaries, and nux vomica to stimulate the cardiac muscle. He mentioned the case of a child freely treated by stimulants until she was livid and unconscious, while the chest was full of coarse *râles*. The administration of small doses of the vinum antimonialis with fifteen-grain doses of sulphate of magnesia, was followed by complete recovery. He expressed the opinion that no remedy could replace the tartrate of antimony to relax capillary spasms and reduce congestion when secretion was established and the skin moist; then, if cardiac failure impended, he saw that alcohol was invaluable.

Dr. Routh called attention particularly to the effects of nitro-glycerine in just such cases. He had rescued quite a number of people by giving a quantity of a one-per-centum solution of nitro-glycerine on appropriate occasions.

Dr. Habershon lauded the hypodermic injection of strychnine in cases of impending cardiac failure.

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A CURIOUS DISEASE, CALLED "HEAD-DROP."

BY DR. K. NAKANO.

In the region where I live there is a curious disease, called "head-drop," of which I heard many years since. At first, I supposed it to be a symptom of some disease, and so I did not bear it in mind. But the more I heard of the strangeness of the case, the more I desired to examine into it.

Last year, when cholera was prevailing, I was going the round of the villages for inspection, when I came to a house, the inmates of which were all in bed. Upon inquiry I discovered that they were affected with this "head-drop." As it had been my long desire, I immediately examined them. The case is, indeed, curious, but there is no other particular symptom to point out. I gave 5 grams of sulphate of quinine, and I was told that they were cured, two weeks after. I therefore pronounced the disease to be curable, and so many patients came to me that at last I hung up a notice regarding the treatment of head-drop, in January of this year.

Name and history.—Head-drop is the name by which the disease is called among the native people, and its history is not known. But from ancient time there were great numbers of patients, and, when attacked by the disease, the people, believing it to be incurable, did not take any pains to consult a physician; hence, nobody has investigated its pathology, and, accordingly, it has no proper name. I think the above is a name given from its outward appearance, and that it is a kind of endemic disease.

Character of the region of occurrence.—The region where this disease occurs is in wet places between mountains, where the current of air is not pure and the sun does not shine all the time; hence, there are no cases found by the sea shore or in high, dry regions. Moreover, those who live in such places are farmers, who generally eat bad food and drink bad water. So far as my experience goes, it seems there is no connection as to sex or natural constitution.

Condition of prevalence and cause of the disease.—It occurs in all seasons, but especially from the end of spring to the beginning of summer. When it prevails it does not attack all the people of the region, and even if in one village one family is affected, there may be none in neighboring families, and the family which was formerly affected by the disease often gets rid of it, and another in turn becomes the diseased family; hence, it seems to be not hereditary. Most people do not like to have communication with such a family. Again, if one person in a family is attacked by the disease, the rest of those in the house are usually affected also, but there is no evidence of affection by contact.

As to the cause of the disease I do not yet know, on account of my short experience. Judging from the symptoms of the attacks, I think there is no doubt that some kind of miasma or malaria attacks a part of the brain or spinal cord. It is not plain whether it causes anæmia or congestion, or attacks by exuding serous pigment, but there must be some part where congestion is caused. In mild cases it attacks a part of the medulla oblongata and corpora quadrigemina of brain, and in severe cases it attacks the end of the spinal cord severely by passing through it. It is said that one who is hungry is more easily affected. In the district around, there are a great many cases of ague every year, but it is curious that there are almost none in the place where this disease occurs, although the circumstances favor the occurrence of ague

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hence, from the first, I thought it to be malarious cerebral disease.

Symptoms.—There are no prognostic signs, except uneasiness of mind and headache a few hours before the occurrence; but it comes suddenly, and the head becomes so heavy that it can not be kept upright, and so hangs down in front, and walking becomes unsteady, too. In some cases the congestion of conjunctiva and dilatation of pupils(?) produce double sight in one eye, and feeling in the neck becomes somewhat dull. In severe cases the patient has double sight in both eyes, and cannot walk in the sunshine. Moreover, the tongue becomes stiff, the speech slow, swallowing difficult, the loins paralyzed, and walking becomes difficult. The specific gravity of the urine discharged is somewhat heavy, the color transparent white, and white sediment appears after standing for a few hours. If it is warmed, or some acid is put in, it neither coagulates nor dissolves. If we examine it with the microscope, we observe two or three pieces of epithelium of the mucous membrane of the bladder, beside cloudy substances, while there is no trace of urea. If we examine for sugar by Trommer's test and subnitrate of bismuth, we often get reaction. Again, the case becomes so severe that at last one of the legs is paralyzed and loses sensation.

The following is the comparative table of patients:

63	Men—37	Below age of 15	12
		" " 25	29
		" " 35	14
	Women—26	" " 45	5
		" " 60	2

NOTE.—These 63 were all farmers, among whom were two men who were affected after being attacked by masked ague, but there have been no deaths from this disease alone.

Duration and prognosis.—Most are attacked when hungry, and continue to be affected from a few hours to a few weeks, and sometimes to two or three months. If any one is attacked once, he is apt to be attacked again, even in the same year. So the prognosis is said to be rather bad, though there is no pain to be felt. During the interval, the health of the patient does not differ from usual, and in mild cases little work is performed generally.

Treatment.—The patient feels no pain. The native people, anticipating its duration, do not consult a physician; hence I have not heard of any method of treatment. Before or during the occurrence, I gave pills of quinine and iron, with tonic medicines, and tried to check the progress of the disease by using quinine. Again, I tried stimulant on diseased parts, especially subcutaneous injection of camphor, and also irritative medicines, such as injection of strychnine, internal and external treatment of iodine and mercury, or applied counter-irritants, leeches, cupping glasses, blisters, and electricity; but some were cured and some not. And even those who were cured, it is perhaps only a temporary relief. It is curious to say that one who is affected when he is hungry, is cured immediately by taking much food.—*The Sei-I-Kwai Medical Journal, Tokyo, Japan.*

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SACCHARIN.

Among the most remarkable of all the marvelous products of the coal-tar industry, as Sir Henry Roscoe has observed, may be ranked the body to which the name of saccharin has been given. This new sweet compound was originally named anhydro-ortho-sulphamine benzoic acid—a ponderous appellation truly, and one to be avoided for trade purposes at any rate; but, at the same time, we do not think the name saccharin, although in some respects appropriate, should have been applied to this body, as the same term has been in use since 1880, to designate the carbohydrate originally discovered by Péligot amongst the products of the action of lime on glucose or levulose.

There is no doubt as to the great value of the discovery of this coal-tar toluene product; but while not grudging Dr. Fahlberg the well-merited reward of his arduous labors and his brilliant discovery, still we think the statement that saccharin was discovered by him needs some modification; for, according to Remsen, the able professor of chemistry in the Johns Hopkins University, this substance came to light in the course of an investigation undertaken and carried on by Fahlberg, under his (Professor Remsen's) direction and superintendence. The new body in question was, in fact, first described in their conjoint paper in Vol. XII of the *Berichte d. Deut. Chem. Gesellschaft.*

The manufacture of this saccharin, or benzoic sulfinide as it is termed by Remsen, is now effected on a large scale, and a plentiful supply of the toluene from which it is prepared is always to be had. This toluene, or methyl benzine ($C_6H_5CH_3$) is obtained in the destructive distillation of coal, as in gas manufacture, being usually prepared by the fractional distillation of that portion of the coal-tar oil boiling at 100°–120°C. This new product is really neither an acid nor an anhydride, although, when an aqueous solution is neutralized with metallic carbonates, salts are obtained. Salts are also formed with the alkalies, which are very soluble, crystallizing in small needles, and having a sweet taste. When fused with potash it is easily converted into salicylic acid.

Saccharin forms a white crystalline powder, which fuses at a temperature of 200°C., when it undergoes partial decomposition, giving off a characteristic odor; it is but slightly soluble in cold water, somewhat more so in warm water, its solubility being, however, greatly increased by the presence of alkalies or their carbonates. Alcohol also furnishes a good solvent for saccharin, particularly 80 per cent. solutions, and it is likewise freely soluble in warm glycerine; but its most characteristic property is certainly its sweetening power, possessing nearly three hundred times that of cane sugar, for while a solution of cane sugar loses its sweetness when diluted to 1 in 250, a sweet taste is still perceptible in a watery solution of saccharin containing 1 in 70,000.

As sugar is a carbo-hydrate, its solutions are liable to undergo fermentation; but as saccharin is an aromatic derivation, it is not liable to undergo this decomposition, and hence it may be freely employed without the fear of destructive fermentation occurring. But, besides this, as saccharin possesses considerable antiseptic powers, its use in medicine may be attended with advantage—as, for example, in cases of alkaline fermentation of urine, upon which it has been shown to exert a strongly retarding influence.

Stutzer, Aducco, and Mosso, from their experiments with this body, agree in the belief that it is innocent, so far as the

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organism is concerned; and Stutzer's experiments further show that its presence has no retarding influence on the digestion of either proteids or hydrocarbons.

However administered, saccharin soon finds its way into the urine unaltered, this fluid not being altered thereby. And, while producing no injurious effect on the system, it is found to agree both with invalids and healthy individuals, and no anxiety as to its effect upon the health need be felt, even when taken for lengthened periods. As much as thirty to eighty grains have been administered daily without producing any injurious effect, even upon the appetite. Saccharin may therefore be said to be neither a food nor a poison; but from its peculiar properties it may often be employed therapeutically with advantage. Thus, it may with benefit wholly or partially replace sugar in the diet where the latter is contra-indicated, as in diabetes, general obesity, torpid liver, marked gouty diathesis, chronic glandular diseases of children, and in certain senile affections in which various cystic and genito-urinary disorders occur. In two cases of diabetes in which we tried it we found its use attended with marked benefit.

From half a grain to a grain and a half of saccharin will sweeten a cup of tea or coffee. Small saccharin tablets, indeed, have been prepared for this purpose, and these are now being supplied, it is said, to the German army; for in a very small bottle of scarcely appreciable weight a soldier can carry enough saccharin for a week's supply.

There is a wide field for the application of saccharin to the production of sweetmeats and preserves, and in disguising the taste of bitter and nauseous preparations, as well as in preserving the properties of others. But it must always be carefully borne in mind that saccharin is to be regarded as a condiment, and not as a food like sugar, and can therefore replace sugar only in exceptional cases.

SACCHARINE "TABLOIDS."

This remarkable product of chemical science is likely to come rapidly and extensively into use, and these tabloids are of a most convenient form for ordinary domestic purposes. One tiny tabloid dropped into a cup of coffee or tea sweetens it most agreeably and innocuously, and thus the diabetic or glycosuric patient, who has been so long deprived of the pleasure of sweetening his food, can carry a little glass tube of these tabloids in his waistcoat pocket, using them as he would lumps of sugar. One tabloid is the full equivalent in sweetening power of an ordinary lump of white sugar. Saccharin is not easily soluble in water. These tabloids are, therefore, intelligently mixed with just enough alkali to make them perfectly soluble. From their extremely convenient and compact form, they will probably soon become popular for military or other purposes where bulk is a thing to be taken into consideration.—*British Medical Journal.*

A CURE FOR WRINKLES.

A curious application has been made of the absorbable properties of lanolin in the treatment of wrinkles. Although not strictly speaking a pathological condition, it is one which is even a more serious, because less avoidable, evil than freckles. When well rubbed in, lanolin passes directly into the skin, and acts as a nutrient to the subjacent tissues, with the effect of smoothing out the folds produced by the attenuation of these structures incidental to age. Several elderly ladies, who were induced to give this method of treatment a trial, are said to have been delighted with the result. —*Medical Press and Circular.*

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CHOLERA AT NEW YORK.

Within the last sixty years the United States have suffered from five epidemics of cholera, which have uniformly followed the prevalence of the disease in Europe, namely, in 1832, 1849, 1854, 1866, and 1873. In each instance the disease was brought by immigrants from Europe. The arrival of the French steamship *Alesia* at New York, on September 23 last, with cases of cholera on board, was therefore sufficient to cause anxiety to some people as to the possibility of the infection reaching the shore. The *Alesia* sailed from Marseilles on August 30, and arrived at Naples on September 1. There she took on board about 300 emigrants and 3 cabin passengers, making her total complement 609 persons, exclusive of the crew of 45 men. The vessel left Naples on September 3, and until September 12 all appears to have gone well. Then, however, cholera unmistakably broke out amongst the Italians who had been shipped at Naples, and before the vessel reached American waters six persons (including two of the crew) had died from the disease, and had been buried at sea, and a number of other cases had occurred. One of the deaths ensued within eighteen hours after attack, whilst the illness of none of the fatal cases exceeded three days. On arrival at New York the vessel was taken in hand by Dr. Smith, the health officer, who vigorously applied the principles of isolation, sequestration, and disinfection, relied upon in America for preventing the spread of disease from shipping. Some sixteen patients were at once removed to the hospital on Swinburne Island, and a number of other passengers, who had been exposed to infection, were kept under observation at Hoffman's Island. The vessel itself appears to have been in a dirty condition, and was forthwith cleansed and disinfected. Since the arrival of the vessel at New York twenty additional deaths from cholera and a number of further cases have occurred amongst the passengers.

Dr. Smith has expressed an unhesitating opinion that there is no danger of any spread of the disease on shore. The precautions against the entrance of cholera have been constant ever since the disease began its ravages in Italy. The passenger list of every vessel that arrives is watched, and all immigrants from infected parts are carefully inspected. Even when the immigrants themselves show no signs of disease, their baggage is thoroughly fumigated. The facilities for caring for the sick are good, and the accommodation for the "quarantined" passenger is satisfactory. There are some people in New York, however, who are apprehensive that cholera may appear in the city next spring. It will be seen that quarantine as practiced in many European countries is not now fol lowed in the United States, but that the preferable system of medical inspection of ships is in vogue.

Good sanitation on shore and watchful care to secure the isolation and disinfection of the first cases of infectious disease are the principles relied upon. Although the term "quarantine" is now in common use in connection with the preventive measures adopted at New York and other American ports, its use does not imply detention of vessels for any specified time, but only for such time as is needful to determine the presence or absence of infection, and to effect, if present, its destruction. The removal to hospital of infected passengers or members of the crew, and of others to proper quarters, is provided for, as well as the careful disinfection of clothing, baggage, and cargo. But there seems to be some local dissatisfaction at New York respecting the scantiness of the sums voted by Congress for securing the completely

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efficient carrying out of this programme. If there is any substantial ground for such dissatisfaction it is regrettable. The last occasion on which cholera was brought into New York waters was in September and October, 1873, when four steamers -- one from Hamburg — arrived, having cases of sickness on board. The disease then, unfortunately, reached the mainland.— *British Medical Journal.*

THE BACILLUS OF SCARLATINA.

The report of the committee appointed by the Edinburgh Medico-Chirurgical Society to investigate the organisms of scarlatina, although not a final one, nevertheless contains some interesting facts. The most important of these is the doubt expressed by the committee as to whether calves are at all susceptible to the scarlatinal poison. In conjunction with Professor MacFadyean they injected scarlatinal blood into two calves, and fed a third with desquamated scales. All three experiments gave negative results. This observation is an important one, and it is to be hoped that the experiments on this subject will be continued. For it will be remembered that the keystone of Dr. Klein's research is the assumption that cattle can take scarlatina, while both Dr. Klein and Mr. Edington lay some stress on the results of the inoculations of their organisms on calves. Mr. Edington inoculated two calves, one of which died within twenty-four hours, and the other, which was only one day old, recovered after a short ilness, in which the prominent symptons were high temperature, inflamed throat, and redness of the skin, followed by desquamation. If the committee definitely show that cattle of every age are incapable of being affected by the scarlatinal poison, the assumption on which Drs. Power and Klein base their views falls to the ground, while the result of Mr. Edington's experiment tells rather against than in favor of the idea that his bacillus is the cause of human scarlatina.

A second point of importance is the statement that the micro-oganism described by Mr. Edington under under the name of streptococcus rubiginosus is morphologically identical with the streptococcus scarlatinæ of Klein. According to Mr. Edington, this organism is not present in the blood in the early stage of the disease, and its inoculation into rabbits, guinea-pigs, and pigs gave negative results. Whether, though morphologically identical with Dr. Klein's organisms, it is really the same, has not yet been determined. In connection with this microbe, the fact stated by Mr. Edington in his letter to the committee is interesting, namely, that his brother drank a cultivation of this organism thirty-six hours old, and made directly from scarlatinal blood taken on the fourth day of the disease without showing any bad result, although the streptococcus rubiginosus was found in his blood three days later, and although he had never had scarlet fever.

It is also interesting to note that the results of the microscopial examinations and cultivations made from the blood were by no means constant. In ten cases of scarlet fever examined microscopically on or before the third day, bacilli and micrococci together were found in three cases, micrococci alone in four, and no micro-organisms in the remaining three. The results obtained by cultivation were very similar; in four out of nine cases bacilli and micrococci appeared in the culture material, in two micrococci alone, and in three the result was negative.

The committtee also express their belief that Mr. Edington's bacillus scarlatinæ is not identical with the bacillus recently found by Dr. Smith in the skin, and supposed by him to be the same, nor with the bacillus butyris, nor the bacillus subtilis. It is to be hoped that the commitee will continue their investigations on this interesting and important subject.—*British Medical Journal.*

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STELLATE AND TRABECULAR KERATITIS.

At the Congress of the French Association for the Advancement of Science, M. Gillet de Grandmont gave the following description of two new forms of keratitis. Keratitis in dotted furrows (*sillons etoilés*) is formed by diminutive sub-epithelial, star-shaped ulcerations. The rays of these ulcerations gradually develop into rectilinear furrows, forming serpiginous ulcerations, which occasionally produce sphacelus. Antiseptic treatment should be used. Trabecular keratitis is caused by the infiltration of the lymphatic cells into the corneal tubes, which present the appearance of small needles. This keratitis appears whenever the lymphatic circulation of the eyes is obstructed. The treatment consists in restoring the circulation by syndectomy, or by the evacuation of the aqueous humor. Trabecular keratitis may be either primary or secondary; it always follows kerectomy. In this case the trabeculæ are parallel with each other, and perpendicular with the curve of the fragment. They disappear as the wound cicatrizes.

Dr. Stœber (Nancy) made the following communication on the Binocular Convergent Function and the Metric Angle. Binocular vision is only possible where the different retinal images are perceived simultaneously. For this the two lines of vision must be parallel (in cases of emmetropia and absence of accommodation), and the distance between the center of the pupils at its maximum. When the object approaches the observer each eye must be optically adapted to the distance of the object. The two lines of vision must be directed on the object, in order to fuse the images produced in each eye into one perception. This direction of the lines of vision, which varies according to the distance between the eye and the object, is termed convergence; the relation between the two extreme points (infinity and the nearest point of distant binocular vision) is termed the power of convergence. Every line of vision directed to a near point makes a convergence or metric angle with the line of infinity. This angle is measured by Landolt's ophthalmo-dynamometer. Emmetropic, myopic or hypermetropic eyes placed in normal visual conditions, and directing their visual rays to a distance of one meter, have a metric angle which is equal to one; but the distance which separates the two rotary centres of the eyes, which is the basis line, must be measured. The convergent capacity is proportionate to the degree of accommodation, excepting in the case of extreme limits. It is greater in a myopic than in an emmetropic eye; it is weaker in a hypermetropic than in a normal eye.—*British Medical Journal.*

NEW UTERINE SUPPORT FOR HORSEWOMEN.

R. J. Maitland Coffin, F. R. C. P. Ed., in the "British Medical Journal," says:

Shortly after my association with the "Wild West," I asked the frontier girls whether the violent riding did not shake them considerably, and was told that at times they suffered a great deal of pain. I advised them to get abdominal belts to keep themselves together whilst riding; they did so, and felt great benefit therefrom. On talking the matter over with Mr. E. Huxley, of Old Cavendish street, he suggested a uterine support, which consists of a peculiar shaped pad, with two straps which cross over the sacrum, and are brought to the front and fastened, with any amount of tightness the wearer may find desirable. I got him to make one for each of the girls, and they say they are such a comfort and support that they will never ride without them. I think the belt will prove a great blessing to ladies in the hunting field, as well as to professional riders.

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ELECTROLYSIS IN THE TREATMENT OF OBSTRUCTION OF THE CANALICULUS.

The *British Medical Journal*, December 24, 1887, presents a report from Dr. W. E. Steavenson and W. H. Jessop, M. B., on the relief of epiphora, due to obstruction of the canaliculus, by the use of electricity. The number of cases reported is ten. They were consecutive and all of them relieved, at any rate for the present. In several instances the report would justify the assumption that it was drawn up by one not very familar with electrical observations; for example, we read "at the positive pole the metal is dissolved as well as the tissues." The expression may be justifiable if the electrode were made of the easily oxidizable metals, but would any one think of using any but a platinum electrode for such work. We might refer to several other expressions of a like character, but reserve the space for the main points of the operation.

Observations were confined to obstruction of the punctum and canaliculus: number of cases, ten; average age of patients, 38 years. Duration of affliction previous to treatment varied from ten weeks to seventeen years. The length of time the patient was under observation seems to average about three months, although the trouble seems to have been relieved frequently after two or three applications of the electricity. In two out of the ten cases, twenty per cent., a mistake was made in using the positive instead of the negative electrode in the canaliculus. The operation was confined in all the cases to the lower canaliculus.

The battery used consisted of four to six Stohrer's cells but it is deemed necessary to use a galvonometer on account of the difference which sometimes exists in the resistance of the tissues. Two to four milliamperes are said to be sufficient. The current is continued for a time varying from fifteen seconds to a minute; the size of probe used to pass through the canaliculus varies from 0.5 mm. to 1.5 mm. The negative pole—never the positive—must be introduced through the canaliculus into the sac; the positive can be applied on the nape of the neck. It is said that when a probe 0.5 mm. was inserted with difficulty immediately after the operation one of 1.00 mm. could be introduced easily. The probe should be attached to a handle furnished with a current-breaker, and care must be taken not to allow the current to pass directly through the eye. One of the two cases in which the positive pole was used in the canaliculus developed a lachrymal abcess, and it was found necessary to probe the other on alternate days so as to prevent occlusion; both, however, are reported cured and the epiphora relieved.

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BOOK-REVIEWS.

CLINICAL MANUAL FOR THE STUDY OF MEDICAL CASES. Edited by JAMES FINLAYSON, M. D., Physician and Lecturer on Clinical Medicine in the Glasgow Western Infirmary; Physician to the Glasgow Hospital for Sick Children; President of the Glasgow Pathological and Clinical Society; Honorary Librarian to the Faculty of Physicians and Surgeons, Glasgow, etc. Second Edition. Revised and enlarged. With 158 illustrations. Philadelphia: Lea Brothers & Co., publishers. 1886.

The second edition of Professor Finlayson's most excellent Manual of Clinical Medicine is a very welcome addition to the very few good books on that subject. The work is too well known to require a description here. It is sufficient to say that the subject is thoroughly revised to the present date, and that every physician and student will find it a most pleasant and profitable companion.

F. B.

HYDROPHOBIA. AN ACCOUNT OF M. PASTEUR'S SYSTEM. Containing a translation of all his communications on the subject, the technique of his method, and the latest statistical results. With seven illustrations. By RENAUD SUZOR, M. B. C. M., Edin., and M. D., Paris. London: Chatto & Windus, Piccadilly. 1887. For sale by J. B. Lippincott Company, publishers, booksellers, and stationers, Philadelphia.

This small manual of 231 pages is divided into three parts. The first chapter, of 30 pages, gives a short description of hydrophobia, and its history from the earliest times down to the end of 1880.

The second chapter, of 128 pages, contains all the communications of M. Pasteur made to the Paris Academy of Medicine, with histories of cases treated.

The third chapter, of 83 pages, contains the technique of M. Pasteur's protective and curative method, with results of other operations, and a synopsis of a report of the British Parliamentary Commission, appointed to investigate Pasteur's method.

It is a valuable book to one who desires to know M. Pasteur's theories and methods of work.

The publishers' work is well done; the paper good, and the type clear. F. B.

PRACTICAL MICROSCOPY. A COURSE OF NORMAL HISTOLOGY FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By MAURICE N. MILLER, M. D., Director of the Department of Normal Histology in the Loomis Laboratory, University of the City of New York. Illustrated with one hundred and twenty-six photographic reproductions of the author's pen-drawings. Pp. 217. New York: William Wood & Company. Chicago: W. T. Keener.

The author's aim has been to guide the student in his technical work, and to give him sufficient instruction in the microscopic anatomy to enable him to correctly interpret what he sees. He gives the methods taught to his students in the Loomis Laboratory; these embody the simpler and most generally satisfactory processes of hardening, cutting, staining, and mounting tissues. And in the chapters devoted to the different tissues and organs, the methods best adapted to each are specially considered.

By far the greater part of the book is devoted to descriptive histology, illustrated by numerous cuts. The descriptions are condensed and not always lucid. The cuts are nearly all coarse; with few exceptions they are diagramatic, and in some instances misleading. This seems inexcusable in an age when book-illustration has become a fine art. The work does not reflect much credit upon either the author or the publishers.

DISEASES OF THE LUNGS AND PLEURÆ, INCLUDING CONSUMPTION. By R. DOUGLAS POWELL, M. D., Lond., Fellow of the Royal College of Physicians; Physician to the Middlesex Hospital, and to the Hospital for Consumption and diseases of the Chest, at Brompton; late Assistant Physician and Lecturer on Materia Medica at the Charing Cross Hospital. Third Edition. Re-written and enlarged, with illustrations, including two lithographic plates, being Vol. XI, of Wood's Library for 1886. New York: William Wood & Company. Chicago: W. T Keener.

The third edition of Professor Powell's book is an amplified edition of the work on "CONSUMPTION AND ON CERTAIN DISEASES OF THE LUNGS AND PLEURÆ," which was published in 1878. The entire work of the old volume has been reconsidered and rewritten, and new chapters have been added

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on the Physical Examination of the Chest; on Asthma; on the Etiology of Phthisis; on the Complications of Phthisis; on the Surgical Treatment of Pulmonary Cavities; on Hydatid of the Lungs, and on Mediastinal Tumors.

An unusually large and satisfactory part of the book is devoted to the treatment of the diseases of the lungs and pleuræ. One chapter is devoted to the climatic treatment of phthisis, which will not be satisfactory to American physicians because our climate is not considered. The principles of climatic treatment indicated will enable one to select a suitable climate in our own country.

The chapters on pathology are very satisfactory, and the conclusions are in accord with those of the best pathologists of the age.

The publishers' work is very well done; the type is clear and easily read. F. B.

FEVER NURSING. Designed for the use of Professional and Other Nurses, and Especially for Nurses in Training. By J. C. WILSON, A. M., M. D. Pp. viii and 210. Philadelphia: J. B. Lippincott Company. 1888. Chicago: W. T. Keener.

This volume concludes the series of "Practical Lessons in Nursing," issued by its publishers. It "embodies the substance of a course of lectures on Fever Nursing, twice delivered before the Nurse-Class at the Philadelphia Hospital." This will prove the most generally useful of the series, and is an excellent book in every way.

The arrangement of topics is good, and the treatment of the points discussed is plain, concise, and as complete as the object intended demands. The literary style is clear and attractive. The book will be most useful as a text-book for nurses in training, and for this purpose it may be very highly commended. E. W.

DIET IN RELATION TO AGE AND ACTIVITY. By SIR H. THOMPSON, F. R. C. S. Pp. vi and 94. Boston: Cupples & Hurd. 1888. Chicago: W. T. Keener.

This is a re-publication, with some slight additions, of an article which first appeared in the *Nineteenth Century*. The author's reasons for the re-publication are "numerous demands," and "a profound conviction of the importance of the subject." He states it as his conviction that "more than one-half of the disease which embitters the middle and latter part of life among the middle and upper classes of the population is due to avoidable errors in diet."

The book consists mainly of a dignified and graceful protest against the idea so prevalent among the classes mentioned, that an increase in weight is desirable as old age approaches. E. W.

DOCTOR AND PATIENT. By S. WEIR MITCHELL, M. D., LL. D. Pp. 177; 12 mo. Philadelphia: J. B. Lippincott Company. 1888. Chicago: W. T. Keener.

The very high esteem in which the author of this book is held, both as a writer and as a physician, is amply sustained by the merits of this his latest volume. It consists in a number of essays which deal with the mutual relation of physician and patient, and are intended to interest the laity more than the medical attendant, and are particularly addressed to nervous women. The book will find its largest circle of readers among the laity, and they will derive the most practical benefit from it, but its most appreciative readers will be those doctors who realize that the richest rewards which their work brings them are not financial ones. The author says that he was tempted when he wrote these essays to call them lay sermons, so serious did some of their subjects seem to him. "They touch, indeed, on matters involving certain of the most difficult problems in human life, and involve so much that goes to mar or make character, that no man could too gravely approach such a task."

A list of the titles of the essays can convey a better idea of the scope of the volume than anything which the limits of such a notice as this allows, and is consequently given here: Introductory; The Physician; Convalescence; Pain and its Consequences; The Moral Management of Sick or Invalid Children; Nervousness and its Influence on Character: Out-Door and Camp-Life for Women.

The fact that the value of a book bears no sort of relation to its size is strikingly exemplified in the volume under consideration. The overworked doctor, who is at times tempted to think that too much bread which never returns is cast by him upon the waters of an unappreciative clientéle, will find a wealth of comfort and solace in reading its suggestive and gracefully written pages.

LECTURES ON THE DIAGNOSIS OF DISEASES OF THE BRAIN. By W. R. GOWERS, M. D., F. R. S. Second Edition, pp. vii, 254. Philadelphia: P. Blakiston, Son & Company. Chicago: W. T. Keener.

This second edition of Gowers' eighteen lectures is issued by the Messrs. Blakiston & Company in the neat dress which characterizes the books which come from that well-known house. It is free from that affectation of uncut leaves of English publishers generally, which necessitates the trouble of cutting the leaves, and which causes an unsightly edge as a consequence.

The author has thoroughly revised the book and

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corrected some defects which existed in the first edition.

In the opening lecture, as an appropriate introduction, the "Medical Anatomy of the Brain" is given briefly, preparatory to considering its normal action. Then, as the book is designed as an aid to diagnosis, the abnormal conditions, whether functional or organic, are presented in so clear and interesting a manner as to make it one of the best manuals on that subject in the English language. The lectures which treat of impairment of the function of the special senses are particularly interesting.

TEXT-BOOK OF THERAPEUTICS AND MATERIA MEDICA. Intended for the Use of Students and Practitioners. By ROBERT T. EDES, A. B., M. D., Professor of Materia Medica and Jackson Professor of Clinical Medicine in Harvard University, etc. Pp. xi, 552. Philadelphia: Lea Brothers & Co. Chicago: A. C. McClurg & Co.

This is an elementary text-book avowedly written, compiled, and abstracted for the benefit of "overburdened students and young practitioners." Doubtless there is a legitimate demand for the best of such books, of which this is certainly one, since with the advance of medical science the less useful information must be eliminated in order that the student may learn the more truly valuable. It would seem, however, that the pruning process might have been less vigorously applied to the parts pertaining to pharmacology. The physiological action of digitalis, for instance, is treated in a manner wholly incommensurate to its importance, and the physiological effects of belladonna as represented by its alkaloidal salt, sulphate of atropia, are tabulated with a brevity which renders them difficult of comprehension except to those already familiar with the subject. Many details of materia medica proper and pharmaceutical data can well be left to the educated pharmacist, but medical students should be taught with thoroughness and precision modern pharmacology and the associated therapeutic principles which underlie the rational application of drugs to the cure of disease.

The work contains many excellent features. The classification, in part original, is well devised, and includes within its scope all the newer remedies. Among hypnotics we note paraldehyde, urethran, and hypnone; among antipyretics, salol, antipyrine and antifebrine; among cardiac stimulants, strophanthus; while iodol, resorcin, lanolin, "cucaina" (cocaine), and others, receive due consideration. Useful alkaloids and active principles, also, are noticed at length.

The typographical arrangement is such that the names of the more important drugs and preparations appear in "Roman Capitals," the less important in "small capitals," and the non-officinal inclosed within brackets.

The phraseology is clear and concise, and at the same time colloquial in style, so that the book is not by any means the "dry reading" which its subject is ordinarily presumed to supply. It can be perused with pleasure and profit by all. W. E. C.

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BOOKS RECEIVED.

Diet in Relation to Age and Activity. By Sir H. Thompson, F. R. C. S.

An Index of Materia Medica. By Charles H. May, M. D., and Charles F. Mason, M. D.

Fever-Nursing. By J. C. Wilson, A. M., M. D.

Doctor and Patient. By S. Weir Mitchell, M. D., LL. D.

Rectal and Anal Surgery. By Edmund Andrews, M. D., LL. D., and E. Wyllys Andrews, A. M., M. D.

Practical Microscopy. By Maurice N. Miller, M. D.

The Practice of Medicine and Surgery Applied to the Diseases and Accidents Incident to Women. By W. H. Byford, A. M., M. D., and Henry T. Byford, M. D.

Hand-Book for Young and Old Opticians. By W. Bohne.

Gynecological Diagnosis, General Gynecological Therapeusis. By R. Chrobak, M. D.

Electricity in Gynecology and Obstetrics. By Egbert H. Grandin, M. D. Being Volume V, of The Cyclopedia of Obstetrics and Gynecology.

Volume VIII, of Cyclopedia of Obstetrics and Gynecology. Diseases of the Ovaries. By R. Olshausen.

Volume XI, of Cyclopedia of Obstetrics and Gynecology. Sterility, by P. Müller, M. D., and The Menopause, by E. Börner, M. D.

Volume XII, of Cyclopedia of Obstetrics and Gynecology. Diseases of the Tubes, Ligaments, Pelvic Peritoneum and Pelvic Cellular Tissue; Extra Uterine Pregnancy, by L. Bandl, M. D., and Diseases of the External Female Genitals, Lacerations of the Perineum, by P. Zweifel, M. D.

The Rectum and Anus; Their Diseases and Treatment. By Charles B. Ball, F. R. C. S. I.

PAMPHLETS RECEIVED.

Wounds, their Aseptic and Antiseptic Treatment. By David Prince, M. D.

The Radical Treatment of Trachoma. By A. E. Prince, M. D.

Report on Progress in Medicine. By J. B. Marvin, M. D.

Progressive Muscular Atrophy, Beginning in the Legs. By J. B. Marvin, M. D.

Statistical Report of 5,700 Cases of Ear Disease. By S. S. Bishop, M. D.

Operation for Mastoid Disease. By S. S. Bishop, M. D.

Treatment of Chronic Suppurative Otitis Media. By S. S. Bishop, M. D.

Report of Proceedings of the Illinois State Board of Health, Annual Meeting, January, 1888.

Transactions of the American Ophthalmological Society, Twenty-Third Annual Meeting, 1887.

Hypertrophy of the Tonsil of the Tongue. By J. W. Gleitsmann, M. D.

Four Months Among the Surgeons of Europe. By N. Senn, M. D., Ph. D.

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ITEMS.

FEVER-GERMS IN DRINKING WATER.—About the 1st of August last, a stranger came to Iron Mountain affected with typhoid fever and died there. No attempts were made to disinfect the surroundings, and from this the fever spread until there have been 350 cases of typhoid fever and thirty-five deaths there. Dr. Vaughan, of the University of Michigan, inoculated sterilized meat preparations and sterilized milk with the Iron Mountain well water, and kept the preparation at the temperature of the body for seven days; a germ developed which was inoculated into some of the lower animals, which became sick with typhoid fever.

It was thus proved that the typhoid fever at Iron Mountain was produced by the use of impure water. Dr. Vaughan says that freezing does not destroy the germ. The ice which the Iron Mountain people used came from a very suspicious source, and no doubt contained germs of typhoid fever. This is the first time that the plan mentioned has been employed to produce the disease in the lower animals from the cause-germ obtained directly from drinking water.

JABORANDI AS A GALACTOPHORE.—A Liege contemporary has called attention to the peculiar influence of jaborandi on the lacteal function. So marked is this said to be that spurious specimens of jaborandi are reported to have been detected from the absence of this property. At the same time its effect is only produced to advantage in a certain class of cases, the precise indications for its use not having been as yet ascertained. In the case of a strong woman, weighing over fifteen stone, whose milk secretion had ceased since more than a fortnight, ten drops of the fluid extract of jaborandi, given every four hours, secured an immediate return of the secretion. Things went on well for a time, but in the course of a few weeks the patient became subject to hallucinations and fits of violent excitement. The jaborandi was suppressed and the symptoms disappeared—and the milk with it.—*Exchange.*

It is not generally known that the Emperor of Brazil is suffering from a somewhat advanced stage of diabetes. This makes his extraordinary activity of mind and body all the more remarkable. It is impossible to withhold a tribute of admiration for the indomitable "pluck" of a man who, while suffering from a complaint of the most depressing nature, continues not only to discharge the duties of his high office with unbated vigor, but takes so keen and so comprehensive an interest in all things connected with the progress of knowledge and the furtherance of human happiness.—*Exchange.*

ANTI-PYRIN is coming more and more into favor, and will soon supercede quinine. Its manifold properties are being discovered daily. M. Chouppe mentioned before the Société de Biologie a case of uterine colic treated successfully by the drug. The case was one of uterine myoma, for which ergot was given in large quantities, causing extremely painful contractions. Thirty grains of anti-pyrin, by the rectum, caused all pain to cease in twenty minutes, although the contractions persisted with the same strength.—*Exchange.*

DR. MANSON, an English physician, has been summoned from Hong-Kong to take medical charge of the young Emperor of China, this being the first occasion on which a foreign doctor has ever attended a member of the imperial family.—*Ex.*

PROFESSOR GRAWITZ states that *trichina spiralis* have been found in as many as one-third of the cases of so-called muscular rheumatism which have been examined post mortem.—*Ex.*

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The Medical Journal and Examiner.

VOL. M. LVI MARCH, 1888. NUMBER 3.

GUNSHOT WOUNDS OF THE ABDOMEN.

BY J. B. MURPHY, M. D.

Read before the Chicago Pathological Society, Feb. 8

Case I. H. M., age 26, admitted to the Cook County Hospital at 8 p. m., June 19, 1886, suffering from a bullet-wound of abdomen. I saw him at 10 p. m. He was suffering but little from shock; pulse ... temperature normal; no pain. On examination I found a large bullet-wound ... inch below the umbilicus and an inch to the right of median line. I determined to make laparotomy, and, assisted by Dr. E. W. Lee and the house staff of the hospital, I made the median incision, ... and a half in length; began examining the small intestine and reporting each wound as it was exposed, by first cutting off the ragged edges with a scissors, ... inverting with a continuous catgut suture ... serous membrane, then the peritoneal covering, the first row of sutures being entirely covered by the second. He was so turned until the eleven openings were united. I found the bullet had passed through the posterior peritoneal wall ... to the pelvis of left kidney. I then washed the peritoneal cavity with a warm ... boracic, carbolized water, ... and the parietal peritoneum behind with catgut, also the opening made in the anterior ... with a continuous ... lar with ... d), dressed ... with ... ze, then ... on. The operation lasted two hours; the patient's condition was good when the operation was completed; pulse 110, and of good volume.

The following morning, the house-surgeon reports, "Not vomiting, patient slept the greater part of the night, did not complain of pain; pulse 110; temperature 99½° F." ... At 7 p. m., ... Hah. No vomiting. ... is hungry. ... old-lowing ... d-denly died ... a quiet ... he complained ... was fainting.

Autopsy.—Found ... and lungs normal; abdomen filled with blood. The sutures in post-peritoneal wall ... through, a large quantity of blood in the retro-peritoneal region, an opening in the left renal artery from which the hemorrhage came.

The wounds in the intestines were *all completely united, ... such as ... scarcely tight*, in the majority of cases the ... could not be seen on account of deposit of reparative ... to cripe them. There was no evidence o

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The Medical Journal and Examiner.

VOLUME LVI. MARCH, 1888. NUMBER 3.

GUNSHOT WOUNDS OF THE ABDOMEN.

BY J. B. MURPHY, M. D.

[Read before the Chicago Pathological Society, Feb. 13.]

CASE I. H. M., age 26, admitted to the Cook County Hospital at 8 p. m., June 16, 1886, suffering from a bullet-wound of abdomen. I saw him at 10 p. m. He was suffering but little from shock; pulse 90; temperature normal; no pain. On examination I found a large bullet-wound half an inch below the umbilicus and an inch to the right of median line. I decided to make laparotomy, and, assisted by Dr. E. W. Lee and the house staff of the hospital, I made the median incision, three and one-half inches long; began examining the small intestine and repairing each wound as it was exposed, by first paring off the ragged edges with a scissors, then inserting a continuous catgut suture in the mucous membrane, then in the peritoneal covering, the first row of sutures being entirely covered by the second. This was continued until the eleven openings were united. I found the bullet had passed through the posterior peritoneal wall close to the pelvis of left kidney. I cleansed the peritoneal cavity with a warm one-half per cent. carbolized water, united the abdominal peritoneum behind with catgut, also the opening made in the anterior peritoneal wall by the bullet; sewed the peritoneum at the incision with a continuous catgut suture; the muscular wall with deep silk suture (interrupted), dressed the parts with iodoform-gauze, then carbolated gauze and borated cotton. The operation lasted two hours; the patient's condition was good after the operation was completed; pulse 110, and of good volume.

The following morning, the house-surgeon reports, "No vomiting, patient slept the greater part of the night, did not complain of pain; pulse 110; temperature 99½° Fah.; no thirst or tympanitis. At 7 p. m., pulse 96; temperature 99°. Fah. No vomiting and no pain; says he is hungry." I called at the hospital the following morning and found the patient suddenly died at 7.30 a. m., after spending a quiet and painless night. At 6 a. m. he complained of weakness and said he was fainting.

Autopsy.—Found heart and lungs normal; abdomen filled with blood. The suture in post-peritoneal wall torn through, a large quantity of blood in the retro-peritoneal region, an opening in the left renal artery from which the hæmorrhage came.

The wounds in the intestines were *all completely united, being both air and water tight;* in the majority of these the catgut could not be seen on account of the deposit of reparative material placed about them. There was no evidence of impend-

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ing gangrene. Though the patient only lived 36 hours after the operation, the peritoneum had already restored itself, and made the openings impervious. There was no evidence of beginning peritonitis. Cause of death, hæmorrhage from renal artery.

CASE II. G. J., colored, aged 22, admitted to the Cook County Hospital May 24, 1887. He said he had been shot in the abdomen about two hours previous.

On examination, a bullet-wound two inches to right of the median line and an inch above the umbilicus was found; there was dullness in the lower portion of the abdomen. Pulse 66, of good volume; there was some shock. I decided on an exploratory incision. I found the abdomen full of blood. The bullet passed from the abdominal wall into the margin of the liver, passing through its substance almost directly backwards and into the muscles of the back. The hole in the posterior surface of the liver could be felt by passing the hand around the liver. There were no perforations of either stomach or bowels. The abdomen was cleansed, about two pints of blood and clots removed; the hæmorrhage had ceased. The opening made by the bullet in the abdominal wall was closed with catgut suture from the inside, abdominal peritoneum united with catgut suture, and the muscular wall and skin with silk. The wound was dressed antiseptically. The operation lasted 30 minutes. The patient was in good condition.

May 25, there was slight tendency to vomit during the night and some pain, but he feels well this morning. The patient's temperature did not reach 99° F. from that time on, nor did he have a single untoward symptom until June 3, when he complained of pain in the back, and on examination a small swelling just over the supposed position of the bullet was found. He was anæsthetized and the bullet removed, also a small quantity of pus. Convalescence was rapid and the patient was discharged June 13.

CASE III. Geo. S., colored, age 57, a musician (but more of a drunkard) by occupation, was admitted to the Cook County Hospital August 23, 1887, at 3 p. m. He had been shot with a 38-calibre bullet a few hours before, his assailant standing fifteen feet in front of him and a little to the right.

The bullet had entered on a level with the 9th rib, 1½ inches in front of the axillary line. His urine contained no blood. Pulse 78, full and strong; no shock; wound had been probed before the patient came to the hospital. Three hours after the injury, the patient was anæsthetized, and an incision was made three inches long downwards and inwards from the point of entrance of the bullet towards the umbilicus. The bullet was found to have passed through the liver ¾ of an inch from its lower margin; also perforating the transverse colon on its convex portion about one-half of an inch from its beginning, leaving a bridge of intestinal tissue half an inch in length between the points of entrance and exit, then passing into the muscles of the back an inch to the right of the spine. The bridge of intestine between the two openings was cut through, and the edges of the wounds freshened, making an opening about one and one-half inches in length. The mucous and muscular layers were first united by a continuous catgut suture; the peritoneal covering was then sewed over it with a continuous catgut suture; about half a drachm of fæcal matter escaped from the intestine after the opening was enlarged, but none before. The abdomen was cleansed with boric acid solution, and blood-clots removed. The parietal peritoneum was united with continuous catgut suture. The muscular and cutaneous tissues were united by interrupted silk suture. The wound was dressed antiseptically. The operation lasted about three-quarters of an hour. The patient left the operating table in good condition; pulse 90, and of good quality; 7.30 p. m., pulse 78; patient

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vomited considerably in the afternoon, and there was some pain in the wound.

August 24, 8 a. m., pulse 72; temperature 99° Fah.; slept considerable; ordered half-ounce doses of brandy every two hours with carbonated water; 7 p. m., pulse 76, temperature 100.2°; vomited until 4 p. m., but not since; feels hungry and thirsty.

August 25, a. m., pulse 74; temperature 98.5°; slept well; no vomiting. From this time on the patient made a rapid recovery.

The first dressing was removed September 2; there was complete primary union. The sutures were taken out and the wound was redressed. The patient was discharged, cured, September 16. I have seen the patient since then and he says he is feeling as well as he ever did.

CASE IV. J. H., aged 26, was admitted to Cook County Hospital on December 1, 1887, at 8.30 a. m., for gunshot wound of the abdomen.

On examination, a wound was discovered on the right side nearly in the axillary line and just below the costal cartilages, apparently penetrating downwards and inwards. The edges of the orifice were blackened and powder-stained, and another opening on the left side, midway between the costal cartilages and the level of the umbilicus, was found. The patient was suffering profoundly from shock. Under ether, and after the patient had walked two miles, the wound on the right side was enlarged, when it was found that the bullet had entered the peritoneal cavity notching the anterior margin of the liver in its downward course. The usual median incision was made, revealing two wounds in the stomach, with extravasation of a small quantity of food into the abdomen, and one in the mesentery, with some bleeding from the latter. These were all carefully sewed up by deep and superficial catgut sutures. The intestines were drawn out and enveloped in warm towels. No wounds were found in them. The peritoneal cavity was thoroughly washed out with warm solutions of boric acid, and the incisions sewed up with silk after securing the peritoneum with catgut. A rubber drainage-tube was passed through the wound on the right side and brought out on the back above the crest of the ilium. The operation lasted 70 minutes, and the patient was very much collapsed.

Through an error, the patient was given two hypodermic injections of one-third grain of morphia, and he showed severe symptoms of opium-poisoning, and did not become conscious until 6 p. m., some eight hours after the operation. The pulse became rapid and more feeble. At 9 p. m. the patient became delirious and died at 11.30 p. m. There is no doubt that the opium contributed somewhat to the unfavorable outcome in this case, as did also the prolonged operation. The autopsy showed the abdomen clean and no blood in it.

Remarks.—There are no positive symptoms of perforation of the stomach or bowels, *i. e.*, if we do not consider the mere fact that a bullet passed through the abdominal cavity *per se* a positive symptom of perforation of the viscera or one of the large vessels. And that we should so consider it is proven by the results of Dr. Parkes' experiments in thirty-eight bullet wounds of the abdomen in dogs, in which only two escaped injury of the stomach and bowels, and in one of those there was considerable hæmorrhage, making only about 2.5 per cent. in which the viscera escaped. Is there any other sign in surgery upon which we act and consider it pathognomonic, where a greater percentage of the cases conform to the law? None that I know of. With this fact staring us in the face, is it not the height of presumption for us to hope that the viscera are not injured after a bullet has traversed the abdomen? Indeed the symptoms of shock were only slight, except in two cases, and in one of them it was due to hæmorrhage.

In case No. 4 there was no vomiting of blood to indicate a wound of the stomach.

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At the Ninth International Medical Congress it was suggested by the first speaker on that subject, "that no operation should be performed until such time as fæcal matter appeared at the external wound." This, of course, is absurd, for the food or fæcal material does not escape from the bowel at once after the injury, but it is principally on manipulation that we get an immediate escape, *i. e.*, a primary escape of the contents of the alimentary canal. Nature prevents this escape by an ectropium of the mucous and muscular coats, plugging up the openings temporarily. Dr. Gross states that "extravasation takes place in all cases," but he does not mention the period of time that elapses before it takes place. This is true of the stomach as well as of the bowels, as in case No. 4, not more than a drachm of fluid and food escaped, notwithstanding the fact that the stomach contained a large quantity of food, the two openings would each admit the index finger, and the patient was about for eight hours after the shooting.

In Dr. Parkes' experiments fæcal matter did not appear at the external opening in a single case. This temporary plugging of the opening by the mucous membrane accounts for the tardy appearance of peritonitis in some of the cases of perforating wounds.

When shall we operate and when not?

There are many interesting cases reported of perforating wounds of the abdomen where the patients recover without operation.

Hennen reports a case shot through the abdomen with a ramrod at Badgos, 1812. In the late Rebellion, private Manypenny, as his surgeon records it, "had a ramrod driven plump through his guts." In the Franco-Prussian war, five cases of recovery are reported in one corps, but I cannot find any report of the number of deaths. Larray in a long experience reports only one case of penetrating wound without immediate serious results, and afterwards the bowels were found to be contused. These few remarkable cases are threadbare from being quoted. Abernethy used to shake his head when he had a case of this kind and say, "Nature would have nothing to do with wounds of the small intestines." Bell says, "We announce them as fatal." Sir William McCormac says, in cases of perforation, the median incision should be made as for any other laparotomy and the bowels examined; but, he says, "if a portion of the bowel protrudes from the opening and is not wounded, it should be returned and the opening sewed up." He goes just half way in the right direction and then falters. How can Sir William McCormac tell but that the bowel may be wounded three or six inches from the point of entrance of the bullet? Not any more than he can tell from the examination of the external wound how many perforations there are in the bowels, and that it would be absurd for a man to attempt the latter is thoroughly demonstrated by the excellent and well known experiments of Dr. Charles Theo. Parkes on dogs. He has opened up the field in a most thorough manner and demonstrated to us what can be expected from a bullet passing into the abdomen. *If we will not act it is our fault. Ostrich-like shall we stick our heads in the sand?*

The light which has been thrown on the subject from numerous experiments, and the results following the treatment of cases influenced thereby, puts us in a position where we cannot escape the responsibility from the charge of malpractice when we stand idly by and allow our patient to sink from a septic peritonitis or bleed to death from a wounded vessel. We, as scientific men, should act fearlessly, and, having done so, we will have the consciousness of having fulfilled our whole duty.

All the preparations should be as thoroughly antiseptic as for laparotomies in other cases, *i. e.*, the disinfection of hands, instruments, etc.

The first incision should be to enlarge the opening made by the entrance of the

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bullet down to the parietal peritoneum, to be sure that the ball entered the abdominal cavity and that it did not rest on the peritoneum as it did in a case of mine. The second incision should be, in the majority of cases, made in the median line, as it allows greater latitude for the examination of the organs; but, in some cases, it will be impossible to bring the wounded bowel to the opening in the median line. When the wound is outside of the mammary line the incision should be over the entrance of the bullet, and enlarged from that point as may be deemed best—that is, in large, broad-bodied men. In all of my experiments on the cadaver I was able to reach the wounded bowel in the most remote parts of the abdomen from the median incision.

The examination of the organs should be methodical and rapid, beginning with the cæcum and examining the small intestines upwards, being careful to keep the bowels as near their normal position as possible, and not to expose them to the air, repairing each opening as it appears. If the exit-opening in the peritoneum can be found, it should be sewed with silk to prevent a return of pus into the abdominal cavity, should any form in the tract or around the bullet. The number of openings in the bowels may vary greatly, and too much care cannot be exercised to make certain that none escape notice and remain open, causing fatal outcome.

Should the mesentery or omentum be wounded, great care must be exercised in ligating the vessels around the opening by suturing the proximal side of the mesentery with catgut, using a full curved, round needle (Czerny), also removing all blood-clots found between both layers of peritoneum in the mesentery.

Another important point is to look for hæmorrhage in the retro-peritoneal cellular tissue, where the ball makes its exit from the peritoneal cavity. Should there be oozing from this opening, it should be enlarged and the vessels closely examined, and, if injured, or oozing, they should be ligated. Had I done this in my first case, I am quite sure the fatal hæmorrhage would have been avoided. I may also mention a case in the hands of one of my colleagues where fatal hæmorrhage occurred from a vein in the retro-peritoneal cellular tissue, in the neighborhood of the left kidney. The patient died of exsanguination on the third day. Autopsy showed the source of the hæmorrhage; also that the patient had had no peritonitis.

The suture to be used is one that (1) can be easily and rapidly inserted; (2) that will keep the serous surfaces in position for forty-eight hours without causing pressure-atrophy; (3) that no suture that is exposed on the peritoneal side of the bowel shall pass through to the mucous surface; (4) that there shall be as little tension on the suture in the peritoneal layer as possible; (5) that they shall be aseptic; (6) that they shall diminish the calibre of the bowel as little as possible; (7) that serosa shall come in contact with serosa.

The materials which at once suggest themselves to fill all the requirements are chromated and juniper catgut, softened in carbolized water, and sublimated silk (1-1000). I used carbolized catgut in my cases, but since that time the reports of Professor Theo. Kocher's experiments and operations in Berne have convinced me that catgut prepared in carbolized oil or alcoholic solutions of the same are not reliable and are frequently septic. The details of the same can be found in the *Correspondenz Blatt für Schweitzer Aerzte*, and are well worth perusal. The best mode of insertion to supply the above-mentioned requirements are (*a*) in longitudinal and small transverse wounds, a double row of continuous sutures, with a round (Czerny) needle, the first approximating the mucosa, and the second the serosa, the latter covering the first from sight; (*b*) in large transverse wounds the Lembert suture should be used. The first can be inserted very rapidly, and the tension on

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the serosa is lessened by the approximation of the mucosa; it will remain unaltered forty-eight hours and not cause pressure-atrophy, and the serosa unites in from twenty-four to thirty-six hours, as shown by experiments on animals, and in my first case. The continuous suture, exposed on the serous surface, is not exposed on the mucous surface, as in Jobert's suture, but it would diminish the calibre of the bowel in transverse wounds, and for that reason, and that only, is Lembert's suture used in large transverse wounds.

A portion of the bowel must be excised when more than three-fifths of its calibre is destroyed, otherwise there will be a stricture at that point. This can readily be accomplished by invagination with a rubber supporter in the intussusceptum, as suggested by Dr. N. Senn, and a continuous suture approximating the serosa in its entire circumference. This may be further supported by the plastic operation on the omentum to support the bowel in this position and insure adhesions (Dr. Senn). When there are two large openings which can be approximated and leave a fistula, allowing the contents of the bowel to pass through the fistula and the loop of bowel to be retired (if the loop is short, that is, less than four feet in animals), the openings should be approximated by Dr. Senn's bone-tablets, or by the suturing process suggested by one of the surgeons in the late Rebellion. Dr. Reybard's wood-plates may be used and the opening approximated to the abdominal parietes. The danger when the bone and wood plates are used is that they cause pressure-atrophy. These advantages are (1) the rapidity with which they can be inserted, Dr. Senn claiming that he can close the opening in ten minutes; (2) the certainty with which they approximate the serous surfaces and retain them in their position.

Toilet.—The blood-clots and escaped contents of the viscera should be removed with a sponge; the abdomen should be washed out with a solution of boric acid until such time as it returns clean from the external wound; the bowel should be replaced as near the normal position as possible, and the omentum spread over the bowel. If it be feared that there is still remaining foreign matter, it would be better to put in a Mikulicz drainage-tube than to lose much time in trying to cleanse the abdomen and thus producing a great degree of shock from which the patient could not rally. *Above all things, profound shock should be avoided.*

262 South Halsted Street.

OPHTHALMIA NEONATORUM OR PURULENT OPHTHALMIA OF THE NEW-BORN.

BY ROBERT TILLEY, M. D.

[A Clinical Lecture Delivered at St. Luke's Hospital.]

The technical name employed to designate the affection that I wish to discuss with you this afternoon, gives you no adequate conception of its importance. In order to comprehend its importance it is necessary to try and form an idea of the extent to which it prevails and the ravages which it leaves in its tracks.

Several years ago the question of prophylaxis of this affection was studied by several of the profession, more especially the Germans, and to Professor Credé, whose name is, or certainly will become, familiar to you in the study of obstetrics, belongs the honor of presenting the most efficient method. It was shown that in the general hospital in which he labored, in round numbers one case of ophthalmia neonatorum occurred in ten births—ten per centum. Now, men and women are much the same the world over, and given a population equally dense to the one in which Professor Credé made his observations, we may expect pretty nearly the same results. As a matter of fact, I remember a report several years ago from the Maternity Hospital of New York, in which the number

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of cases of ophthalmia neonatorum was given as practically the same as that recorded by the German professor—10, 10.5, 11 per centum. This, however, was previous to the adoption of the prophylactic measures worked out by Credé. I shall refer to these measures later.

But you are, perhaps, ready to exclaim, "Yes; but that is in hospital cases, and consequently come from the poorer people." Let me remind you, however, that the affection to which this ophthalmia of the newborn owes its origin, is no respecter of persons, and is by no means confined to the poor. It will certainly make its appearance in your own practice unless you are very much more punctilious and observant than your confrères, and even then you will encounter it in the experience of others. There is, however, no possibility of ascertaining the proportion of cases in which it occurs in private practice.

But whilst it is impossible to ascertain the percentage of cases in private practice, if we study it from another standpoint we shall be convinced that it is not infrequent. Magnus, of Breslau, says that in the blind asylum under his charge, I forget now in what year, thirty-four per centum of all the blind in the asylum were blind from ophthalmia neonatorum. He is careful to add, however, that the inmates of the institution are largely young people, and such a percentage could not exist if we take into consideration the whole of those afflicted with blindness. His percentage of blind, however, from purulent ophthalmia, is not unique at all; a percentage still higher has been recorded both in England and Russia, as well as other countries.

In his excellent work, "Die Blindheit, ihre Entstehung und ihre Verhütung," Dr. Magnus has collated 2,528 cases of total blindness recorded by excellent observers in Germany—Schmidt, Rimpler, Uhthoff, Stolte, Hirschberg, Landesberg, himself and others. He has presented these in graphic form, which I have reproduced for you; and of all the affections causing total blindness, ophthalmia neonatorum takes the precedence in its destructive influence on the eyes, the proportion being 10.87 per centum; that is to say, that out of ten blind persons, one, at least, was blind from purulent ophthalmia of the new-born. History repeats itself, gentlemen, and what is true in Germany will have its counterpart here in America. As a matter of fact, according to the census of America of 1880, out of ten thousand individuals there were 9.73 blind, whilst a carefully made compilation of Germany gives in ten thousand inhabitants only 8.79. Accordingly, in round numbers, we may be said to have in America 50,000, blind; and it would be fair to conclude that ten per cent of this 50,000, or 5,000, are blind from purulent ophthalmia of infancy. This number, however, it must be remembered, takes no account whatever of those who have been afflicted with the disease and have been cured, or simply deformed with leucoma or afflicted with the simple loss of one eye only; it takes cognizance only of those who are incurably blind. There is yet another idea in connection with this class of cases which will not fail to impress you with its importance, namely, the occurrence of blindness at this early age means the total destruction of the most active avenue of knowledge. Blindness at forty to sixty is a dire calamity, but blindness from infancy, who or what can compensate for it?

This disease usually reveals itself from twelve to forty-eight hours after delivery. You will readily see, however, that the rapidity of its manifestation will depend on several conditions. If the labor is a tedious one, and the head remains a long time in the vaginal canal, its manifestation after complete delivery will probably be earlier.

Nor must we forget that in all probability the stage in which the corresponding affection exists in the mother will probably contribute largely to the time of its development as well as to the virulence of its

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form. One of its first symptoms is photophobia; then redness and swelling of the conjunctiva; serous and purulent discharge. The purulent discharge is frequently very abundant and the swelling sometimes so extensive that the upper lid extends considerably over the edge of the lower one. It is true, the affection in infants is frequently less violent than the corresponding affection in adults. Yet the number of blind referred to this cause shows that it is frequently severe enough in infants. When it results in blindness it is frequently associated with leucoma, or a milk-white condition of the cornea, together with more or less destructive changes in the deeper structures of the eye; or the anterior part of the eye becomes staphylomatous.

The most important point to determine previous to a prognosis is to ascertain the condition of the cornea. If it is still clear, and complete control of the case can be obtained, there should as a rule be no serious impairment of vision from this source. It must, however, be remembered that cases of congenital cataract or congenital atrophy of the optic nerve, enjoy no immunity whatever from purulent infection, and hence a case of purulent ophthalmia of the new-born when relieved of the ophthalmia, may reveal signs of congenital cataract or optic-nerve atrophy wholly independent of the affection in question. Should the cornea be cloudy when it is first seen the prognosis must always be very guarded, as, at the best, leucoma of the cornea will probably result.

The treatment of these cases varies greatly with different practitioners. There are some who claim that frequent washing of the eyes, so as to cleanse them from the pus, is the all-important item in the treatment. And such do not hesitate to characterize the use of nitrate of silver, so highly prized by others, as barbarous. Others are content with a saturated solution of boric acid for instillation in the eye, after cleansing. Others use solutions of sulphate of zinc and sulphate of aluminum and potassium; others adhere by preference to the nitrate of silver. Of those who use solutions of nitrate of silver, many differ in opinion widely relative to the strength of solution preferred.

Some of the English ophthamologists use by preference the mitigated nitrate of silver sticks; that is, nitrate of silver and nitrate of potassium in various proportions. Personally, I give the preference to a solution of nitrate silver of about 20 to 30 or even 40 per centum of nitrate silver in distilled water. In using these strong solutions, however, great care must be taken to protect the cornea, and any excess of the silver nitrate solution should be immediately washed away. I prefer to apply it with a little cotton-wool on the end of a probe—I do not use a brush. Once in twenty-four hours is sufficently frequent for such applications, but meanwhile the eyes should be kept scrupulously clean. Cleanliness can be secured only by very frequent washing out of the cul-de-sacs. The swelling and discharge diminish greatly in the first twenty-four hours. Immediately after the application there is quite an abundant exudation of serum, and the lids should be opened to allow its escape. The application of a little vaseline to the edges of the lids is serviceable to prevent the edges from adhering to each other. When they are adherent, however. the application of a little warm water soon overcomes the difficulty. I cannot too urgently caution you against the danger of allowing any of the secretion to come in contact with your own eyes, and you in your turn must be equally cautious in warning those who have charge of an infant so afflicted.

The little one that illustrates this affection for you to-day was not afflicted with a very violent form. It evidently was not observed or recognized as such until about the fifth day after delivery. I did not see it until the eighth day. That was about twelve days ago, and whilst the pus rolled out from between the eyelids when I first

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saw it, there is now little or no extra secretion. There remains, however, still a hyperæmia of the conjunctiva and I will now apply again the nitrate of silver solution. I take my position immediately opposite the nurse; the child is held on its back in her lap and its head between my knees; the lids are readily everted and the superior border of the upper and lower border of the lower tarsal cartilages brought together so as to protect the cornea from the solution of nitrate of silver; 20 per centum solution is applied, allowed to remain a few seconds, and then washed off with water and the lids returned to their positions.

The prophylactic measures which I referred to before, as advocated by Professor Credé, are in substance as follows: The eyelids are washed and carefully wiped as early as possible after delivery. The eyelids are then slightly separated, and a single drop of a two per centum solution of nitrate of silver is made to drop from a glass rod on the cornea and allowed to flow equally into the upper and lower conjunctival cul-de-sacs. This constitutes the whole of the prophylactic measures. This method has justly become so popular that it is taught in the midwifery courses. The application, according to report, gives no pain and no prolonged discomfort. Only in those prematurely born does a slight amount of conjunctivitis ensue, and this difficulty disappears in a very brief period. When we learn that it has resulted in the complete obliteration of ophthalmia neonatorum from the maternity wards and its consequent disastrous results in after life, it must be considered well worthy of attention. Any method which will diminish the number of blind of a country 10 per centum must be a great boon to humanity. Were I in general or obstetric practice, I certainly should adopt the method at any rate in all cases in which the mother gave evidence of suspicious leucorrhœa.

I have said that the application of the two per centum solution of nitrate of silver gave rise to little or no discomfort or evil results. There has, however, recently been a case reported in the New York "Medical Record" by Dr. Pomeroy in which troublesome hæmorrhage is said to have occurred, but the practitioner that Dr. Pomeroy refers to cannot be said to have followed Credé's directions. He is said to have dropped the nitrate of silver solution from a spoon onto the baby's eyes. Now, gentlemen, in the first place, a spoon is not an instrument at all adapted for use with nitrate of silver; in the second place, it is practically impossible to drop from a spoon, especially when it has to be guided into a child's eye; and in the third place, Credé recommends the very best thing for the purpose—a glass rod. Now if you ever adopt the method, do not despise the glass rod, and never attempt to do it with a spoon.

There is one more point to which I would call your attention. Gonorrhœal infection is very generally said to be caused by a minute organism, the gonococcus; and of course the ophthalmia of the new-born must be referred to the same influence. Nitrate of silver ranks very high as a germicide, especially with certain germs. This is very interestingly set forth in a book on "Ferments et Maladies," by Duclaux. After studying the culture-fluid of Ravlin, specially devised for the culture of the aspergillus, he says that if to the ideal solution 1-1,600,000 of nitrate of silver be added the further development ceases at once, and that a similar ideal solution that will give three crops of aspergilli in three days and in doing so exhaust itself of practically all its constituents except the excess of water; if the same kind of solution be placed in a silver vessel the seeds of aspergilli when sown on its surface refuse to develope. It may be that the nitrate of silver, whether used as a prophylactic or as a remedy to cure, acts in a similar way.

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A CASE OF POISONING BY INGESTION OF ONE GRAIN OF ATROPIA SULPHATE.

BY CASSIUS D. WESCOTT, M. D.

[Read before the Chicago Pathological Society.]

The following case occurred during my service as assistant physician in the Illinois Eastern Hospital for the Insane.

At about half past two o'clock on the afternoon of September 21, 1884, Ole A., a terminal dement with melancholy delusions and suicidal tendencies, became possessed of a bottle of eye-lotion containing one grain of sulphate of atropia, and swallowed the contents without the knowledge of his attendant. The carpenter had gone into the attendant's room, leaving the door open. The bottle containing the poison had been carelessly placed upon the top of a wardrobe; the patient had noticed the poison-label upon it, and knowing where it had been placed, slipped into the room when the carpenter's back was turned, took it down, and swallowed the contents, without being observed. I believe he swallowed the entire contents, for the bottle was found empty. The patient told accurately how much he found in it, and said he took it all. His desire to suicide was well known. Furthermore, there is no reasonable doubt that the solution contained the quantity which had been prescribed—one grain.

At 4.30, or two hours afterwards, he was reported as being in a "sort of a fit," and in my temporary absence, was seen by one of my colleagues, to whom he seemed as if emerging from an epileptic seizure. His pupils were widely dilated, his muscles relaxed, and he was in a condition of stupor.

At my evening round at 7 o'clock, when I called for the eye-lotion, and the empty bottle was brought to me, my attention was called to A. He was lying on the floor, apparently unconscious. When shaken vigorously, he aroused and seemed to realize his surroundings, but could say nothing, though making visible effort. His pupils were largely dilated, with mouth and tongue very dry; extremities cold; legs so much paralyzed that he could not stand; face palid; pulse 120, respiration 12, shallow and irregular. So much time had elapsed since the drug was taken that evacuation of the stomach was deemed useless.

I at once administered one-half grain of sulphate of morphia hypodermatically, and had the patient put in bed and surrounded with blankets and hot-water cans, and brisk friction applied to the legs and trunk. The catheter was passed, and nearly three pints of very light-colored clear urine drawn. At 9 o'clock, the pulse had increased in volume and strength, and the surface was warm. The patient made some inarticulate sounds, but his voice was very husky. If not almost constantly shaken and flagellated, he would drop off into a deep sleep, and respiration would become alarmingly slow—10 or 12 to the minute. The following prescription was given:

R. Tr. digitalis, m. xv.
Potassæ nit., gr. x.
Spirits frumenti, ℥ ii.
M. S. At once.

At 9.30, paralysis had almost entirely disappeared, and he was walked between two attendants until 11 p. m., but the tendency to sleep was so great that occasional flagellations were necessary to keep him awake, even while walking. The pulse was 150; temperature 101° F.; respiration 20 and regular. The tongue had become moist, and the patient would reply to questions in monosyllables, and swear at the attendants when they slapped him unusually hard. He complained of some headache. Digitalis, nitre, and whisky were repeated, and the catheter passed, but only a small quantity of dark-colored

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urine was obtained. The patient was then put in bed, and kept awake by occasional flagellations until 1 a. m., when he was intrusted to the care of two attendants, with instructions to keep him moving and give him two drachms of whisky every hour. They reported having walked him until 4 a. m., when they allowed him to rest, and with an occasional shake kept him awake. At the rising hour, 5 a. m., he dressed himself and went to breakfast with the others of his ward. At 6 o'clock, his pupils were largely dilated, but he looked and acted as well as usual, said he had no headache and felt well. As the urine had not been passed voluntarily, the catheter was resorted to, and twelve ounces of very dark-colored urine were drawn. The pupils remained dilated for some days, but otherwise nothing unusual was observed in the patient physically; mentally, he seemed brighter and more cheerful for some weeks.

There was no delirium observed at any time, and only occasional muscular twitchings during the early part of the night. The fit reported by the attendants before the patient was seen by a physician was described as "like an epileptic fit."

The case seems of interest because of the large amount of atropia taken, and the rapidity and completeness of the recovery. Dr. H. P. Loomis, of New York City, reports a case (*Medical Record*, February 28, 1885), in which a similar quantity was taken, with symptoms fully as alarming and more serious after effects, but ultimate recovery. He says he could find only one case (in either English or American journals) in which so large a quantity of the salt was taken and recovery occurred. This case was reported in the *Medical Times and Gazette*, July 6, 1865. I have searched the literature at my command with similar results, and hence feel justified in offering this case for your discussion.

567 West Madison Street.

EDITORIAL.

NATIONAL CONTROL OF MARITIME QUARANTINE.

In a former number of the *Journal and Examiner* attention was drawn to the evident inadequacy of the quarantine arrangements in the harbor of New York. That the statement as to the danger of introduction of cholera and other infectious diseases through that important gateway, not only into New York City but to the entire country, was not an exaggeration of the facts of the case has been fully shown by the reports made to the *New York Academy of Medicine* by a committee of its members, and by a similar report by the *Board of Health* of the State of New York, as well as by the action taken by the mayor of New York. The displacement of one inefficient quarantine commissioner may remove one obstacle in the way of improvement of the service in that port, which is very desirable, as it must be considered the most dangerous, because the largest, avenue of entrance to our country for foreign immigrants and infected goods. The manifest defects in that port have served to draw attention to the existing defects in the quarantine service of our entire country, and it has been emphasized by recent importation of small-pox into San Francisco through Chinese immigration.

In October, 1887, the College of Physicians of Philadelphia appointed a committee to investigate the efficiency of our quarantine arrangements for the exclusion of cholera and other epidemic diseases. That committee has made its report, and has embodied in it a resolution to the effect that "the committee be continued, and be authorized to issue an address to the medical societies of the country," seeking their co-operation in an attempt to secure by concerted action the early adoption of a uniform and efficient quarantine at all of our exposed ports. That address, together with the report, is now

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being widely distributed, and may be obtained from the chairman of the committee. For the benefit of those of our readers who may not see the address, and to assist in pushing forward this very desirable movement, we give a brief summary of the main points.

From the "conclusions" reached by the committee it seems that the quarantine facilities at Baltimore and Philadelphia are utterly inadequate. Of the station at New York, the report says: "The buildings are sufficiently large and numerous, and have adequate arrangements for heating and cooking, but they are not divided into a sufficient number of small compartments to permit the strict isolation of the immigrants into small groups." The report further states that the arrangements for water-closets, drainage, washing of clothing, and for bedsteads, chairs, tables, and eating utensils were very defective.

Ample practical demonstration of the inefficiency of the arrangements at New York last fall was shown by the occurrence of cases of cholera among the quarantined immigrants, which developed much later, after the beginning of the quarantine, than the accepted period of incubation of the disease. In addition to this unequivocal evidence, the report claims, and the same statement has been made by others, that the management of the *Alesia's* passengers was worse than the arrangements.

The following summary of the "Address" mentioned is substantially in the words of the original. The weighty objections urged against maritime quarantine are:

1. The alleged failure to keep out the diseases.

2. The alleged injury to maritime trade.

The answer to the first objection is that the existing measures are grossly imperfect, and that an efficient system is theoretically and practically possible. As to the second objection, it is the ship's inhabitants, and, excluding rags, not the cargo, which carry the infection from which protection is sought. Practically, then, the present methods of independent quarantine are not efficient, and they cannot be made so. If placed in charge of a bureau of the National Government, adequate maritime quarantime measures can be established. Such a system should require:

1. That the whole matter be placed under an appropriate department of the General Government.

2. A central bureau of control established at Washington.

3. A sufficient corps of medical officers and assistants, with nurses, sanitary police, laundrymen, engineers, and officers and crews for boarding-tugs, organized at every station.

4. The erection of necessary hospital, and other buildings, wharves, disinfecting apparatus, wash-houses, latrines, etc.

5. These stations must be organized and fully equipped at every port of entry of the coast, in such a way as to meet the requirements of each port in the measure of its commerce and immigration, and the special diseases to which it is most exposed.

6. The cost of the establishment and maintenance of the National quarantine should be provided for by appropriation from the National Treasury, and not from fees exacted from vessels.

The address illustrates and defends these propositions, and closes with the following suggestions addressed to the medical societies of the country: "If your co-operation be agreed upon we would further suggest that, as a body and as individuals, you assist in influencing legislation by the following means:

1. The passage of formal resolutions recognizing the necessity of National control of maritime quarantine, and urgently recommending the matter upon the consideration of your Representatives in Congress.

2. Strenuous efforts to enlist popular sentiment in support of such legislation.

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3. The enlistment of the influence of the local medical and public press."

The importance of this subject is so great that it should receive the prompt attention of the profession of the entire country. The interests involved are so universal that it would seem impossible for politicians to make a party issue upon it. Hence, there is reason to hope that if the action of this committee of the College of Physicians of Philadelphia meets with the prompt, hearty, and unanimous support which the matter deserves, it ought to be possible to secure the necessary legislation during the present session of Congress, and to have the bureau in successful operation early enough in the summer of this year to give to our country greater protection from a threatened epidemic of cholera than it possessed when the infected *Alesia* brought the disease to our doors during the past autumn, and the lateness of the season, rather than scientific and efficient quarantine, prevented the scourge from following the great lines of travel, and thus spreading throughout our country again. With the warning signal of danger so clearly shown in the harbor of New York when the cold weather of winter came to rescue the country, it would be criminal negligence that would disregard that warning and leave ports of entry yet open to invasion during the coming season.

THE AMERICAN MEDICAL ASSOCIATION.

The annual meeting of the American Medical Association this year will be held in Cincinnati, on the first Tuesday in May. Special efforts are being made to have it a large and representative meeting of the medical profession of the whole country. The central location of the place of meeting, and the season of the year, as well as the well-known hospitality of the people of Cincinnati, will unite to make the occasion interesting and profitable professionally and enjoyable socially.

If the national societies representing the various specialties be properly represented at the meeting of the American Medical Association, as they should be, and participate in the work of the general sessions, as well as in its different sections, it will prove alike advantageous to the Association and to the special societies by bringing into more direct contact the general practitioner and the specialist, who seem yearly to be drifting further apart. Their interests are mutual and supplemental, and the growing tendency of recent years towards isolation is detrimental to the best interests of both. Whatever cause or causes may have led to such tendency the result is unfortunate.

The general practitioner needs and desires direct personal contact with the specialist whose special course of study and restricted sphere of work have made him deft and an expert adviser in his particular field; the specialist, whose life is devoted to work in that circumscribed field, must recognize the fact that the limitations to which he confines his work, whilst bringing expertness, have a narrowing tendency mentally, as well. Contact with those engaged in the general work of the profession serves to diminish that tendency, and thus such reunions are mutually advantageous. It is not sufficient to gainsay this to allege that the specialist should be well qualified as a general practitioner, besides being an expert specialist. All will admit its truth, but desirable as it is that such should be the case, it is patent to the observing medical man that the tendency of the last few years has been markedly in a different direction, and unless some counterbalancing influence be exerted which shall neutralize that tendency, the result in the near future will likely be mutually unsatisfactory. Since the American Medical Association must be recognized as the organization that is most truly representative of the whole medical profession of our country, and its annual meetings, with general sessions for work which interests the entire profession, and sectional meetings designed for the special

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work of the different departments of the profession, furnish ample opportunity for all to meet, it seems most desirable that these opportunities should not be as much neglected as they have been for the last few years. Shall not the next meeting of the Association witness a radical change for the better in that respect?

FRAUDULENT MEDICAL ADVERTISING.

A recent decision rendered in one of the courts in this State, in which the *State Board of Health*, which is charged with execution of the law governing the practice of medicine in the State of Illinois, is concerned, is of more than passing interest to the people of the State.

Under the above law, passed in 1877 by the Legislature, it is claimed that the State Board of Health has been enabled to rid the State of more than 3,000 unqualified practitioners of all kinds, and, what is of quite as much importance, has prevented many others from locating within its limits. Whilst this purification has been accomplished chiefly through the instrumentality of the medical profession, it is the general public that has been most benefited by the change, as was contemplated when the enactment of the law was urged in the interest of the citizens of the State. With commendable fidelity has the State Board of Health discharged the unacceptable duty devolved upon it by the law, and in so wise a manner has it acted as to have led to its imitation by boards organized in other States. Whilst thus struggling against prejudice and opposition, prompted by mercenary motives as manifested in many ways, it has encountered obstacles from a most unexpected source. The law provides that in case of abuse of the license to practice medicine issued by the Board of Health in accordance with its provisions, that board shall have power to revoke the license of such offender. Acting under the authority thus legally conferred upon it the board revoked, for alleged fraudulent medical advertising, the license of one of the most persistent of the medical peripatetics, and drove him from the State. Subsequently he returned, after having exhausted, as is supposed, other fields of his exploits, or been driven therefrom by medical-practice acts in force in them, and he now defies the authority of the board which revoked his license "for unprofessional and dishonorable conduct." In his efforts to prevent the Board of Health from driving him from the State again, he appealed to a court of law, and, in the decision above referred to, the action of the board in revoking his license was declared to be illegal, on the ground, as it is alleged, that the itinerant was not present to make a defense at the time of the revocation of his license. Since it appears to have been shown at the trial that the Board of Health made repeated, but ineffectual, efforts by legal notices, officially served on the offender, to secure his attendance at the meetings of the board when he was informed that his case was to be heard, and he persistently refused to be present at those meetings to make defense of his course, and the board only revoked his license after, seemingly, the most conclusive evidence of the correctness of the charges made against him, it is not clear upon what grounds it was decided that the course of the board had been illegal in revoking the license. If it be the ruling of courts that the board cannot put in execution the provisions of the medical-practice act in the absence of a culprit who refuses to present himself and defend his course, such ruling practically declares the law to be a nullity, and makes the way clear for a new influx of the unqualified and the unscrupulous.

MEDICAL PROGRESS IN ITALY.

The full report given in the November number (1887) of the *Medical Journal and Examiner*, of the last bi-ennial meeting of the Italian Medical Association, showed the strides that that regenerated

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country is making to regain the position it once held in the medical world. The letter, in another part of this number of the *Journal*, from our Italian correspondent, regarding medical matters in that country will be found to be interesting in several respects. It recalls the names and works of Italian physicians, surgeons, and teachers, connected in times long past with the old university of Pavia, that are as familiar to the medical students of to-day, and will be to those of future ages, as they were to the pupils of those famous men when they were making the reputation of that university.

It will be a surprise to many, who have not visited that old institution in recent years, to learn of its great awakening, and of the amount of scientific work that is again being done in it, and for the regeneration of Italy. In this work it is prominent, but it does not stand alone in the progress of medical education in that country, as well as in the higher education of Italians generally.

Whilst age has brought to the university accumulations that are of great value in study and in investigation, the disadvantage which attends many years of existence in hospitals, is strikingly shown in our correspondent's report of the rate of mortality at the clinique described. It affords another strong argument against the continuance of the use of hospitals that have long been in existence, and, in this instance, either of incomplete observance of modern antiseptic methods or of the inefficacy of those methods to secure asepsis in buildings long used for hospital purposes.

The brief outline, given by our correspondent, of the new Polyclinic in Rome, bears further evidence of the recent awakening from the lethargic state which characterized it for so many years; and for Rome, to-day, is claimed the credit of publishing the only *daily* medical journal in the world—*La Riforma Medica*, edited by Professor Gætona Rummo.

SOCIETY REPORTS.

TRANSACTIONS OF THE GYNÆCOLOGICAL SOCIETY OF CHICAGO.

REGULAR MEETING, FRIDAY, NOVEMBER 18, 1887.

The President, HENRY T. BYFORD, M. D., in the Chair.

Professor W. W. JAGGARD exhibited

THE NEW NORMAL FORCEPS OF PROFESSOR LAZAREWITCH.

The instrument was presented to the Section on Obstetrics, Ninth International Medical Congress, and its full description can be found in the Transactions now in the printers' hands.

The forceps is straight, *i. e.*, without pelvic curve; the branches parallel; the lock, a tenon fitting into a mortise. Uncharitable critics might regard the instrument as an example of reversion to the original type of forceps. Johann Palfyn, a surgeon of Ghent, presented to the Academy of Paris, in 1723, a forceps, termed Manus Ferræ Palfynianæ, which, in many essential particulars, resembles the instrument devised by Lazarewitch after twenty years' experimentation.

The PRESIDENT presented the following specimens:

HYDRO-SALPINX.

The tube is dilated to a diameter of two and one-half inches. Before being put in alcohol the distended walls of the tube seemed as thin as tissue paper and the whole tumor almost transparent. The uterine end of the tube is pervious. The patient is 38 years old, and was never pregnant. She married fourteen years ago, was taken very sick in a short time, and did not live with her husband afterward. She has not been well since. She married again three years ago, lived with her husband eight months, and dates her severe illness from this marriage. She claims to have had one or two watery discharges from the vagina about the middle of each menstrual

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period, preceded by an aggravation of her symptoms and followed by relief. As her pains were on both sides, she concluded that the discharges came from both sides. At the first examination, made soon after a vaginal discharge, I found no tumor; at the second, I easily felt the dilated left tube. As you see, the ovaries are about twice their normal size. The right tube, which was small and imbedded in lymph on the posterior surface of the broad ligament, could not have been removed without tearing the ligament, and was not disturbed. The right ovary could not be pulled out at the incision, and was ligated with some difficulty. The recovery was easy and uninterrupted. The reason for the operation was that she was an invalid, unable to earn her living, and had no one to depend upon.

Dr. NELSON. Was there any suspicion that there had been any specific disease?

The PRESIDENT. From the history, I considered the disease to be of gonorrhœal origin.

FIBRO-SARCOMA OF THE UTERUS AND BROAD LIGAMENT.

This specimen of fibro-sarcoma of the uterus is interesting as having been obtained by one of the most difficult hysterectomies on record. I have the following notes of the case:

Mrs. E. W., American, aged 40, widow, had been married twenty-two years, having borne four children, the oldest twenty years of age, the youngest twelve years old. Four times since the birth of her last child she has miscarried at the third month. Her present illness began six years ago, when she discovered an enlargement in the left inguinal region. There was no pain connected with it, but the last miscarriage, three years ago, was extremely painful. After recovery the pain in the left side subsided. One year ago, the growth began to increase in size, and has grown very rapidly since. There was dull, heavy pain through the pelvis. Two months previous to this time, an exploratory incision was made and a diagnosis given of fibroma of the uterus, with numerous pelvic adhesions. The surgeon did not think its removal practicable. On August 4, I removed the tumor. The operation was begun at 3.15 p. m. and completed at 7.15 p. m. The tumor, including the uterus, was about the size of a man's head. I found the whole anterior surface of the omentum firmly adherent to the abdominal wall above and the tumor beneath, making it almost impossible to get at the tumor, and certainly quite impossible then to make an ordinary exploratory incision. It required about three-quarters of an hour to get the omentum, whose veins were as large as goose-quills, ligated so that I could free it from the surface of the tumor. After enlarging the incision, I found a little space on the right where there were no adhesions. All over the left side the small intestines were adherent, lying flat on the surface, while above and on both sides the colon, throughout its whole length, lay as if plastered upon the tumor. Large blood-vessels could be seen running from the bowel onto the tumor. If I could have lifted the tumor sufficiently to put an elastic ligature about the uterus, I might have quickly enucleated it, but I could not stir it from its bed. It was a sarcoma that did not easily admit of enucleation, and bled profusely from the slightest wound. The patient was anæmic, had already lost some blood, and had been under ether for some time. But I had to go on, for I did not dare to close the incision with the already disintegrated surfaces free in the abdominal cavity. So by ligating dozens of places, cutting between some ligatures and enucleating under others, I finally got the tumor so that I could raise it a very little. Over two hours were thus consumed before I succeeded in freeing it above and tying the ovarian vessels of the left side. I then rapidly enucleated far enough down to apply an elastic ligature, using all of my hæmostatic forceps in stopping bleeding points. But the uterus had grown into the

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broad ligament and was firmly attached to the pelvis, so it could not be enucleated out of its vascular surroundings, but had to be ligatured at and against the pelvic brim on the left. The pedicle, as you see, was about the size of a man's thigh and is traversed on one side by the enlarged uterine cavity. It was treated by Hegar's extra-peritoneal method. The patient died forty-three hours after the operation, of exhaustion. The greater extent and vascularity of the adhesions, as compared with fibroma, were well illustrated here. The absence of menorrhagia in the history of the case corresponds with what is more often noticed in sarcoma.

Professor ETHERIDGE: Will you tell us how you freed the colon from the tumor, and whether the bladder was implicated?

The PRESIDENT: The bladder was not implicated. In freeing the colon, I took stitches through the capsule of the tumor and ligated separately the large vessels on the other side and cut between them. In some places I used hæmostatic forceps on the tumor side, in others I enucleated.

Dr. J. SUYDAM KNOX read the following report of three Pelvic Presentations, with Deep Laceration of the Perineum.

The three cases of breech delivery here reported occurred in close sequence in my private practice. Being unusually severe labors, and having certain points in common, they impressed me as being worthy of report. Taken collectively, they suggest discussion as to the management of labors with this presentation.

CASE I. Mrs. W., American, æt. 26, primipara, was taken with slight labor pains 4 a. m., May 7, 1887. At 2 a. m., May 8, Dr. Colton was called and found the breech presenting, S. L. A. As the os was but partially dilated, and the pains extremely irritating, he administered opium and chloral. Rest, with gradual dilatation of the os was thus obtained for the next twenty-four hours, when I first saw the case. Finding the membranes unruptured, and the os still not sufficiently dilated, the breech not being engaged, I advised non-interference and a continuance of the opium per rectum.

At the end of twenty-four hours I was again sent for. Water had been escaping for hours, the breech rested on the perineum, the patient was exhausted by seventy hours' labor, and the fœtal heart could not be heard. The doctor had made long and faithful efforts to assist the delivery, but the body was apparently impacted in the pelvis and would not advance. With great difficulty I succeeded in bringing down a foot, and at length delivered a lifeless twelve-pound boy.

The after-coming head caught in the superior strait and its extraction with forceps caused a laceration of the perineum to the right side of, and beyond, the anal sphincter. The soft parts were so swollen and contused that immediate stitching was deemed unadvisable.

The perineum was partially repaired by granulation during a tedious convalescence of five weeks. Secondary operation will be required.

CASE II. Mrs. M., a stout young Bohemian, æt. 22, fell in labor with her first child the morning of May 13, 1887, Dr. Michelet in charge. The first stage of labor was tedious and extremely painful. The membranes ruptured at the end of twenty hours. For three succeeding hours pains were severe and expulsive, when the patient became exhausted and labor ceased. Dr. Nelson was called in and advised stimulants, quinine, and opium. The patient slept several hours, awoke refreshed, and the pains returned with strength and regularity. Thirty-nine hours from the commencement of the labor, Dr. Nelson was again called in and I was requested to meet him. We found the breech resting on the perineum, the body firmly impacted in the pelvis, and the child dead. Persistent efforts at extraction had been made, leaving the vulva bruised and swollen, and the perineum rigid. The patient having been put under ether at the request of the

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others, I engaged a blunt hook in the anterior groin of the fœtus and gradually succeeded in extracting the body. The forceps were then applied to the after-coming head. Its delivery caused a laceration of the perineum through the sphincter, and about one inch up the recto-vaginal septum. The weight of the child was ten pounds.

Under the most disadvantageous circumstances, Dr. Nelson successfully closed the rent, using three silver sutures in the septum, and four in the perineum.

Antiseptic post-partum treatment was adopted, but the patient had septic fever. On the eighth day fæces escaped per vaginam. Examination revealed no union, and the stitches were removed. The patient was four weeks in bed. For two months she was confined to the house. She has but little control of the rectum to-day.

CASE III. Mrs. F., a robust American woman, æt. 36, was confined four years ago, in New York, with her first child. After seventy hours of distressing labor, a dead and mutilated child was instrumentally extracted. I could not learn whether craniotomy was practiced or not. On the morning of June 24, 1887, I was called to attend her in her second labor. I found the vertex presenting high up, L. O. A. The first stage of labor lasted thirty-six hours, when, the os being fully dilated, I ruptured the membranes. Hard expulsive pains succeeded for three hours, when finding the head did not engage, I attempted the high application of the forceps.

The blades were introduced and locked without difficulty, but each attempt at traction caused them to slip backwards over the crown of the child. Owing to the great obliquity of the head, this always occurred in spite of extreme depression of the handles and downward traction. Anæsthesia was then produced, the hand introduced, and podalic version easily accomplished.

The after-coming head became impacted in superior strait, requiring the forceps. Fifteen or twenty minutes passed before it could be disengaged and delivered. By depressing the handles of the forceps between pains, I succeeded in getting some air to the child, and thus finally delivered it alive. Weight of child, twelve pounds.

My best efforts could not save the perineum, which was torn through the anus and one inch up the recto-vaginal septum. After the delivery of the placenta, I repaired the laceration with two deep silver sutures. The upper stitch was inserted on a level with the lower vaginal commissure and passed entirely around the recto-vaginal rent. The second stitch closed the perineum above the sphincter ani. The rectal sphincter not having been repaired, the condition of the patient was similar to that after operation for anal fistula. The stitches were removed on eighth day, finding the perineum healed. The patient was up and about in two weeks, apparently as well as ever. October 13, the rectal tear not fully healed, but sphincter under full control. My impression is, that no further operation will be required.

In reviewing these cases, I was impressed with the danger to the fœtus in delay of delivery after the membranes have ruptured. Until then, breech presentations should not be interfered with, for the dilatation of the os is slowly accomplished, and the membranes should be kept intact as long as possible. This long first stage, however, is apt to exhaust the patient and make her irritable. We thus get spasmodic rigidity of the os tincæ and perineum.

After the rupture of the membranes and the protrusion of the breech into the vaginal canal, the rigid perineum is apt to cause the flexible body and folded limbs to pack in the pelvis, and delivery is retarded. If this retardation continues, tonic uterine contractions are induced and the child dies asphyxiated, or uterine inertia comes on and the fœtus slowly dies from compression. In the cases reported, the large size of the children, and the easy delivery of the after-coming heads, show that impac-

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tion was not due to disproportion between the pelvis and the fœtus.

These successive complications I believe are present in some degree in all breech presentations in primiparæ. The novelty of the situation, with its pain and anxious forbodings, tends to make such parturients nervous and irritable. Under ordinary conditions, breach presentations should be severely let alone until the breech has cleared the vulva. The bag of waters can scarcely be left too long unbroken; the folded body best prepares the way for the after-coming head, and, therefore, the extremities should not be brought down. Tractions lead to the extension of the chin and the passing of the arms above the head, and, therefore, ordinarily are unwise and vicious.

In cases, however, like the first two reported, there must be a departure from ordinary methods, to avoid the ill results that followed.

In a prolonged first stage, the resulting irritability of nerve and muscle can largely be avoided by a free use of opium guarded by belladonna. Rest is thus secured; strength conserved; the os tincæ becomes relaxed, and the perineum distensible.

After the rupture of the membranes, the descent of the breech should be encouraged by pressure upon the fundus uteri during each pain. At the same time, two fingers in the vagina depressing the perineum would prevent impaction, and increase the energy of the uterine contractions. Should impaction threaten, anæsthesia should be induced, the feet brought down, and tractions made; always, however, following the descending fœtus with compression of the fundus uteri. This outline of treatment is, of course, to be modified by the idiosyncrasies of the patient, or peculiarities of the case.

Each of the three patients reported was deeply lacerated. Each laceration was treated differently.

Case I was not operated upon. The soft parts were so ædematous and bruised as to forbid expectation of union. I believe this to have been an error of judgment. The œdema soon subsided, there was no sloughing, and partial repair, at least, with much comfort would have followed the closing of the wound. The mere apposition of the parts without union is a great advantage to the patient, as illustrated in Case II.

The latter was far less distressed during the first week of her lying-in, though her laceration was much more grave and no union resulted.

In Cases II and III, both lacerations passed through the sphincter ani, and about an inch up the recto-vaginal septum. In Case II, the whole wound was carefully closed with seven silver sutures. Non-union resulted. Septic fever was, however, present. In Case III, but two sutures were used, one closing the vaginal rent and the other the perineum. The deep anal fissure was left untouched. Good union followed.

I believe these opposite results had their origin in the management of the torn sphincter ani. In such deep lacerations this muscle is a born disunionist, and chafes under the restraint of a stitch. It should be excluded in the closing operation. The end sought is to restore the integrity of the perineum. Even the rent in the recto-vaginal septum, unless extensive, is of less importance.

Dr. D. T. Nelson: Perhaps it would be more appropriate for me to say something later in the discussion, but as I was cognizant of the first part of the history of the case, it may be interesting to give testimony as to the condition of the patient before Dr. Knox saw her and kindly assisted, for I assure you we wanted not only his brains but his muscles. The attending physician and myself had become completely exhausted in attempting to dilate the perineum and cervix and make ready for some one to deliver. I believe I never saw a more rigid perineum; the cervix had dilated fairly well, but slowly and tediously, assisted, I believe, by opiates—chloral had been given by the attending physician before I saw

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her. In theory and practice I have no doubt of the importance of aiding dilatation of the perineum when it does not dilate satisfactorily. This was one of those cases, rarely found, in which it was exceedingly difficult, almost impossible, to dilate. Considerable had been accomplished before Dr. Knox saw the patient, and yet I am sure he would be ready to testify that the perineum was not well dilated, and more, that it was not dilatable. It was ruptured before it was dilated. As to the wedging of the fœtus into the pelvis or into the lower strait, it was to me an interesting fact, and I think I have seen it several times before. It ordinarily means the death of the fœtus. Thus wedged in, when dead, the fœtus is, so to speak, a ball of putty which can be crowded by the forces above into a mass against the resisting medium, whatever it may be. Pains had been increased by the manipulations in dilating the perineum, and I think that is an important advantage in many cases of difficult labor, that by attempting to dilate the perineum the pains will be strengthened, just as they are ordinarily in a normal condition of things when the head, or whatever the presenting part is, reaches the perineum. You have the advantage of the reflex muscular contraction, which makes the pains very much more powerful. But we had become exhausted in attempts at dilatation before Dr. Knox saw the patient, so we got very little advantage in that way. What advantages have we gained by the experience? It seems to me the proper place for improvement in treatment of such a case is during pregnancy, or before pregnancy, even, and the question is whether or not we could do anything to make the muscular structure better in quality. It seemed to me one of those cases in which there was, to a large extent, absence of the development of muscular structures in the vagina and perineum which ordinarily follows pregnancy. We are all aware that pregnancy makes a great change in the vagina, vulva, uterus, and ovaries, and it seemed to me that change had not taken place as it should. There had not been the development of the muscular structures that would facilitate the delivery. She was much in the condition, when I first saw her, of a virgin. She was quite fleshy, and I think it is the experience of all of us that these are the patients whose perineums and other structures rupture; they do not dilate as well, perhaps from absence of muscular tissue, perhaps from the presence of fat. As to the restoration of the perineum, I remember well that we discussed the question whether it would be wise to attempt the immediate operation of the restoration of the perineum and other ruptured parts after delivery; my own thought, and I think it was the unanimous belief of those present, was that the woman would be no worse off if the immediate operation was performed, and probably would run less risk of sepsis, though we all doubted the satisfactory union of the parts. I heartily agree with Dr. Knox that, as a general rule, it is not wise for us to try to close the perineum and be thoughtless about the recto-vaginal septum and the sphincter ani. I should decidedly prefer, if I was to operate after another physician, to have the septum closed, and to have the opportunity of closing the sphincter and perineum. I think the first operation should be the closure of the septum. I think it will be found quite difficult to close the recto-vaginal septum, after the perineum and sphincter have been restored. I fully believe that the danger of sepsis and other serious complications are lessened by the immediate operation, even though the parts are so lacerated that we can hardly expect a satisfactory union, and I would do the primary operation unless the patient was so exhausted by the previous delivery as to forbid it.

Professor CHAS. WARRINGTON EARLE: Such difficult breech cases as our attention has been called to this evening are not frequent in my practice. Indeed, when I have seen pelvic presentations terminated before I could reach the case, safely to both

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mother and child, it has sometimes occured to me that we exaggerated the dangers of these cases, and I have thought that the ordinary breech case gets along better without some doctors than with them. I think there is no doubt but that the temptation to extract quickly sometimes produces the complications we seek to avoid. The cases presented by Dr. Knox were indeed complicated, and, with his most able advisers, I believe the most judicious treatment was pursued, but I cannot see why episiotomy was not performed. This is an operation which, in my judgment, should not be done frequently or unadvisedly, but it occurs to me that here it would have been justifiable.

Dr. Nelson compares the condition of the child in the cavity of the pelvis to a mass of putty.

With such a condition of things as this—the child dead and the lower parts rigid—why waste time trying to deliver with forceps or anything else; why not perforate at once, reduce the size, and then deliver?

In regard to lacerations, I am an advocate of closing them all. I have never performed the immediate operation on the cervix, but I have witnessed it, and, if performed by a skillful operator, I think it justifiable. Certainly, it is our duty to do the immediate operation if the perineum is ruptured. I once saw Carl Braun's assistant do a craniotomy, in the course of which the cervix, a portion of the vagina, and the perineum were all torn. After the usual antiseptic precautions to the cavity of the uterus, he introduced retractors, and successively closed the rent in the cervix, then in the vagina, and then the perineum, using in all about sixty sutures.

I can easily see how in a small room, and with imperfect facilities, it would be impossible to do such an operation, yet the indications are to thoroughly and antiseptically and immediately close these lacerations.

Dr. D. T. Nelson: I would like to say a few words in reference to some of the points raised which Dr. Knox did not know. As to the use of hot vaginal douches, the hot sitz-bath was not used; it was practically impossible, on account of the absence of conveniences. A hot-water vaginal douche was directed and repeatedly used during the first stage of labor. A word further with regard to the septic conditions; I believe the woman had septic fever, but I believe that antiseptic precautions were fairly used, not as they might be in a hospital, or as they would be in our best private practice. Vaginal douches of an antiseptic type were repeatedly used during the first stage of labor, and after delivery iodoform was constantly thrown into the vagina and over the vulva. As to closure of the perineum by primary operation, and putting in too many stitches, I have had some experience in that direction, and fully believe that putting in a large number of stitches, and closing the parts perfectly, is a desirable thing to do, and I have repeatedly had it succeed most admirably. I never had as bad a result as this one, and the reason is partly explained by the fact that we were working at a decided disadvantage. We did not think it safe to put the patient on the table, where we could have had an opportunity to perform the operation satisfactorily. More than half the stitches were put in by feeling, and not by the eye, and you can judge that they would not be well put in, and accurate coaptation could not be secured. The expectation was not that there would be complete union, but that there would be less sepsis than otherwise, and I think the woman would have had far less chance of life if the operation had not been attempted. As to turning and delivering the child by his feet, I think any gentleman would have found it a difficult task to turn that babe and deliver it. As to dilating the parts before the instruments are put on, it seems easy, and in every other case of breech presentation I ever saw it was exceedingly easy to deliver the patient, but this was so extremely difficult I was very glad to have Dr. Knox present to assist, as well by his fingers as

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his valuable head. If I should ever meet another such case, I would be glad to have some gentleman of the society present, and if he can deliver with his fingers, they will be stronger than any that were present on this occasion; I feel sure there are no fingers in this society that could have delivered that breech.

The PRESIDENT: I would like to take exception to one of the main conclusions of the paper, that it is not well to try to do too much in closing the perineum. In those cases in which I have put in the most stitches the union has been the most complete. I recently put in twelve stitches and got complete union in a laceration extending into, but not through, the sphincter ani. In another, extending through the sphincter ani, I obtained complete union by using fifteen stitches. I preserved a piece of the perineal centre, which was hanging out like the end of a finger, by stitching it back with buried juniper catgut. The reasons for failure are that the operation is poorly done, or imperfectly cared for afterwards. If the operator uses carbolized catgut, he will be sure to have occasional failures. I use buried sutures of juniper catgut in the recto-vaginal septum, instead of rectal sutures, and then stitch the vaginal edges, exactly as they belong, with the same material. The lowest external stitch should be taken low down and through the ends of the torn sphincter, as recommended by Emmet. Either this or the next one should pass deep enough into the perineal body and near enough to the rectal mucous membrane to sustain the rectal pressure or traction as far as possible. If these stitches be of silkworm gut or silver, they will not give way, when properly and aseptically taken. I think the mistake is sometimes made of cutting off too many irregularities, instead of fitting them together. After the parts are united, we should, if the rectum has been lacerated, bind up the bowels for several days, and at first use plain vaginal douches, not carbolized ones, from three to five times in twenty-four hours. Beginning with the third and fourth day, carbolized douches should be employed. If we take all this care, the same as for the secondary operation, we will, unless the parts have been too badly bruised, have the same success.

Dr. J. S. KNOX: In regard to the infection of these patients, Dr. Cotton told me his patient had no septic fever or rise of temperature, and he thought convalescence was delayed on account of the laceration of the parts. Dr. Michelet's patient had septic fever. The stitches were removed on the eighth day, and union was found not to have taken place. In my own case, the woman made a prompt recovery. I kept her in bed two weeks, because I had stitched the perineum; there was no rise of temperature, no signs of sepsis; she had a normal lying-in. I introduced my hand into the uterus and turned the child. I used no intra-uterine douche, but used an antiseptic vaginal douche, two or three times a day. In reply to Dr. Earle—the physicians were not trying to save the perineum, as the lacerations were not at all expected. I have repeatedly applied the forceps to the after-coming head in breech presentations, and always expect to deliver the head without laceration of the perineum. It has been my experience that when a delivery of the after-coming head is attempted instrumentally, it comes suddenly and unexpectedly; you make strong traction, and the head flies upon the perineum and out in the world in a moment, and I think the lacerations of the perineum occurred in this sudden popping-out, so to speak, of the after-coming head. Dr. Byford speaks of keeping the bowels bound up after operations on the perineum. I met with greatest success in keeping the bowels open; my inflexible rule is, after stitching the perineum, to administer to my patients, from the start, Friedrichshall or Hunyadi water. I like them to have a stool once in twenty-four hours without the use of an enæma; I also like my patients

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to pass urine naturally, and then, as soon as the patient has urinated, to douch out the vagina and the wound. I think it is not judicious to keep the bowels constipated. In regard to Dr. Nelson's criticism of my conclusion about too much being attempted, I spoke only of this one case. I believe that all lacerations should be closed, if possible, and that every care should be taken to perform an immediate and complete operation. When, however, the conditions are such that one cannot make a complete operation, I should much prefer to close the perineum, leaving the sphincter-ani muscle unclosed, to even leave the septum not stitched, rather than the perineum, because I believe that the results of a laceration of the perineum, unrepaired at the time and left for a secondary operation, are quite serious. There seems to be a readjustment of all the organs of the pelvis; the position of the bladder, rectum, and uterus are not the same as before, and the longer the secondary operation is delayed the greater are the displacements. In this operation, I said too much was attempted, because an appropriate and satisfactory operation could not be done under the circumstances.

All the surroundings were such that all operations were done with a great deal of difficulty; in fact, Dr. Nelson made half his stitches by touch, and not by sight. In my own case, I was alone, with no assistant but an ignorant Irish nurse, and with a hysterical patient. In the case operated upon by Dr. Nelson, I think, if he had used less skill, he would have had a good perineum. Speaking from my personal experience, I think that manual dilatation of the os in labor is injurious; I believe most thoroughly in the septic inoculation of the uterus by attempts to dilate the os in labor, even before the membranes are ruptured. When the os has become rigid, I occasionally introduce two fingers and try to retain what dilatation has been accomplished by pains; but the dilatation of the os, I think, is a vicious practice in ninety-nine cases out of one hundred, but by dilating the perineum when it is rigid I have saved a rupture, in breech as well as vertex presentations. If impaction of the fœtus and laceration is accomplished largely by rigid perineums, I think it is proper for the physician to do this operation, and I know that it does bring on more regular pains.

Professor EARLE asked if these women were subjected to a long hot sitz-bath as a means of assisting dilatation.

Dr. KNOX: They were not. There are many things that have suggested themselves to me in connection with these cases. I believe that if hot vaginal douches, hot sitz-baths, and hot applications over the abdomen had been used, they would have been more satisfactory.

Dr. BAYARD HOLMES read a paper entitled, "A Primary Myoma of the Broad Ligament and a Table of Seventeen Collected Cases," which appeared in the February number of this journal.

BALTIMORE GYNÆCOLOGICAL AND OBSTETRICAL SOCIETY.

T. A. ASHBY, M. D., read a paper on "Syphilis of the Endometrium."

There are few, if any, of the organs or tissues of the body which are not involved in one way or another in the various manifestations of syphilis, when once the virus of this malady becomes a constitutional infection.

That the syphilitic poison has predilections for certain organs and tissues is a well-known fact. The manifestations of this disease are largely influenced by bodily conditions and constitutional states. Thus, anæmia, chlorosis, and general debility favor the outbreak of syphilitic lesions which might have pursued a milder course, or been kept in total abeyance, by a condition of health. Pregnancy is supposed to exercise the same influence upon the syphilitic woman. The character of this influence is modified largely by the age of the syphilis. Thus, a woman who contracts

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syphilis during pregnancy is affected differently from one who contracts the disease prior to conception. In the first case the predisposition to premature delivery is far less potent than in the second.

Secondary syphilis is almost sure to manifest itself in the syphilitic woman when the disease is contracted prior to conception or during the act of conception. Ohlshausen mentions that among 657 syphilitic women, 231 miscarried, while 426 were delivered at term of living and dead children. Parvin states that at Lourcine 260 aborted out of 416 pregnant syphilitic women.

Abortions induced through syphilitic influence may be brought about either through maternal or fœtal infection. A woman previously inoculated with syphilis will abort more readily than one who contracts the disease during pregnancy, and the danger of abortion seems to be in ratio to the period of infection. Thus, contagion communicated at the time of fecundation is more likely to lead to a separation than where the poison has been introduced after the fourth month. Syphilis may be communicated through the father to the fœtus, which may or may not result in its death and separation, and the mother may escape infection. On the other hand the mothers have become infected through the fœtus. A woman may have secondary syphilis and pass through the entire term of pregnancy without any manifestation of the disease in connection with the reproductive organs, but this condition of exemption may be regarded as an exception to the general rule that syphilitic women are almost sure to abort.

When pregnancy becomes established in the syphilitic subject it invites a manifestation of the disease at the point of contact of the fœtal and maternal tissues. The decidua becomes involved in a condition known as *syphiloma of the decidua*, and the placenta is so modified in its structure and mode of development as to constitute a condition recognized as placental syphilis. The extent of these changes which take place in the decidua and placenta indicates the result of the syphilitic involvement. Separation may or may not occur according to the extent and influence of the poison upon the maternal and fœtal tissues. The placenta may be affected throughout its entire thickness, or only either the maternal or the fœtal portion. When the infection occurs through the mother, the maternal portion is that which is chiefly involved, and *vice versa* when the disease approaches through the fœtus.

The local manifestation of the syphilitic virus in the decidua, as a general rule to which I know of only two exceptions, ceases as soon as separation takes place, whether by miscarriage or labor at full term. The degenerative changes which follow the termination of gestation seem sufficient to remove the involved endometrium. This process must almost invariably take place. I have been unable to find any references in the literature of this subject to a continuation of the syphilitic manifestation upon the endometrium after labor or miscarriage. If observers have noted this condition they have been singularly remiss in calling attention to it. That a condition of continued involvement of the mucous membrance at the placental site does occur, my experience with two cases herein related fully confirms.

The condition observed is one of continued proliferation of epithelial tissue—a highly luxuriant granulation, if I may so term it—which returns again and again after removal, resembling in this respect the proliferative exfoliations of an epithelial cancer. The sole origin of this condition I have referred to secondary manifestations of syphilis in the endometrium at the placental site or in this neighborhood. The disease under consideration has followed, in two cases under my own observation, a miscarriage which was referred to the influence of the syphilitic poison. In case two there was a return of

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the endometrial trouble, after an interval of three years from date of former treatment, which could have no reference to any other known causative influence. In my opinion syphilis was the entire cause of an inflammatory condition of the endometrium which was followed by hyperplasia of the elements of the decidua, a condition which has been described by De Sinéty as a fibroid degeneration of the villi of maternal syphilitic origin. Why the latent influence of the syphilitic virus should have manifested itself in endometrial involvement I am unable to explain any more than the various other singular anomalies of this disease which do not seem susceptible of rational solution. We can the more readily understand the primary outbreak of secondary syphilis in the decidua and placenta during gestation, and the continuation of the syphilitic influence upon the endometrium after miscarriage, since here we have the possible retention of placental tissue as a probable nidus for the subsequent outgrowth of granulations. In this instance the influence of the poison is simply continued until overcome by local and constitutional treatment.

The subsequent development of syphilitic lesions upon the endometrium I can only account for upon the general assumption of a local dyscrasia in connection with the lining membrane of the uterus, inviting a concentration of the specific influence upon this membrane, which resulted in hypertrophy of the glandular elements and a degenerative change in the epithelial lining of the uterine cavity.

In case one, in which the local influence was continued after the separation of the fœtus, the lesions were localized—that is, in seeming relation with the placental site. In case two, the entire lining membrane of the cavity seemed involved, though the process in this case was more tractable to treatment than in case one.

I present the histories of these cases.

Mrs. A., aged 24 years, primipara, miscarried between the fifth and sixth months of pregnacy. Prior to this event she had been treated by her attending physician for an indurated chancre and subsequent mucous patches on her vulva and labia minora. This disease she had contracted from her husband during the early weeks of married life. She was not informed as to the nature of the affection, and has been kept in ignorance of the specific character of her trouble out of deference to her domestic relations. Following the miscarriage, a portion of the afterbirth was retained, but this was speedily removed with the curette. Hæmorrhage, however, continued for some five or six weeks, and during this time the curette had been employed two or three times, each time removing lumps of degenerated mucous membrane and vegetations. The uterus remained large, subinvoluted, and in a very relaxed condition, and as a result of frequent intra-uterine applications and curetting, a mild metritis was induced, which was followed by elevation of temperature, violent pain, and profuse muco-purulent discharge more or less tinged with blood. Recognizing the specific history of this patient the family physician made use of antisyphilitic treatment with almost negative results. Mrs. A. continued to run down, and by copious losses of blood was greatly reduced in flesh and strength. Her physician losing confidence in his own intelligent treatment of the case requested me to see the patient in consultation, and then insisted upon my taking entire charge of the case. The diagnosis already established was confirmed, and an effort was made to relieve the distressing symptoms, which at this time were referable to the constant and profuse hæmorrhage, subinvolution, uterine colic, and general debility. Ergot, which had previously been administered, was again employed. The uterine cavity was carefully curetted, and large masses of epithelial tissue and vegetating fungosities were removed. Astringent applications, iodoform, tannin, and other agents designed to influence the tissues through local effect,

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were employed. The result of this method was temporary in its effect. Hæmorrhage would cease for a few days, but the least bodily exercise would cause its reappearance. The granular condition of the endometrium would again and again reappear after constant curetting, employed at intervals of one or two weeks. The tendency to a re-formation or outgrowth of fungous neoplasms was so constant that it was next to impossible to suppress them for a longer time than a few days. In addition to the local treatment, which was heroic enough to answer every temporary purpose, ergot and iodide of potash and general tonics were administered thrice daily in large doses. Mercury had been employed by my predecessor, and I simply gave the iodide of potash. This condition of the endometrium continued off and on for over three months, during which time I employed the curette frequently and made constant applications to the endometrial surface. Finally the tendency to proliferation of fungous tissue began to diminish and I had the pleasure of witnessing a gradual shrinkage in the size of the uterus, a contraction of its walls, and returning healthy condition of the endometrium. The menorrhagia, which continued off and on for over four months, finally ceased and menstruation became normal. It has continued so up to the present time, now five months since recovery. The involution of the uterus is not as yet complete, but the uterine cavity is contracted and more in keeping with the normal shape and size. During the early progress of the case the cavity was so large that it would have contained easily a medium-sized orange.

In this case the tendency to re-formation of granular tissue was more marked than I ever witnessed. In some of its aspects the proliferation of neoplasms resembled a malignant degeneration, but this idea was dismissed and the theory of syphilitic influence was accepted as in full accord with the history of the case.

The explanation seems to be this: Under the influence of specific disease the placenta and decidua were primarily involved and separation took place, which resulted in the miscarriage of pregnancy and the removal of the fœtus and secundines. The decidual membrane remained behind involved in syphilitic disease, and, in its exfoliation, continued to develop neoplastic tissue. The process of degeneration thus established was continued under the influence of the syphilitic virus. As fast as one set of neoplasms was removed a new set came on to take its place, thus continuing the pathological state of the endometrium. I am convinced the influence of iodide of potash was a potent factor in the treatment of this case. This was shown on several occasions. It became necessary several times to discontinue the use of the drug in consequence of its effect upon digestion. During these intervals, whether from a bias in my own mind or actual fact, I was led to believe that hæmorrhage was more severe and the recurrence of the neoplasms was more marked. I had never before witnessed a condition of endometrium at all similar to that present in this case, and I have associated the influence of syphilis with the causation of the condition herein described. In my opinion a non-syphilitic endometrium would not behave in this manner. In cancerous disease a similar condition might be observed, but the recovery of my patient disproves this assumption, whilst her history gives strength to the syphilitic theory. Whilst this case was fresh in my mind a second case came under my care which confirmed the view expressed above in regard to the influence of syphilis upon the endometrium. The extent of the involvement was neither so great nor so intractable as in the case of Mrs. A., but the history of the patient clearly points to a syphilitic influence extending through a series of years and secondarily involving the endometrium after a lapse of some three years.

Mrs. B., aged 27, primipara, was married

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six years ago. Some six months after marriage she became pregnant and about the sixth month of utero-gestation she miscarried without any assignable cause referable to objective conditions. Subinvolution, menorrhagia and metrorrhagia followed in the wake of the mishap, and for many months the health of this lady was greatly depreciated.

She was treated both locally and constitutionally by several physicians, with the result that hæmorrhage ceased but subinvolution remained. Her husband, a gentleman of considerable intelligence, had contracted syphilis some time prior to marriage, for which he had been treated, with what he presumed to be entire success. Believing himself cured he entered into matrimony only to find the germs of the disease aroused into new activity by the new state. He almost immediately inoculated Mrs. B. with the poison, which became manifest in constitutional disturbance as well as in the local influence upon gestation. Following the miscarriage, which was the first explosive effect of the syphilitic poison upon the part of the latter, both husband and wife were placed under syphilitic treatment by a physician in New York City, to whom they both applied. The wife was kept in ignorance of the nature of her disease, and, of course, that of her husband, and this ignorance now holds. The successive years of struggle with syphilitic manifestations by husband and wife I shall not discuss here, but the history is not an uninstructive one. Outward manifestations were so successfully combated with anti-specific remedies that a complete check was placed on these. With the exception of sore throat, slight loss of hair, and rheumatic pains, the husband has escaped. The wife continued to bear the legacy of an interrupted gestation in the shape of an entailed uterine disease. With the exception of backache, pelvic pain, leucorrhœa, and general debility, no symptoms had occurred during the past three years referable to the uterus until six months ago. She had never conceived during this time. About May last, without any exciting cause, uterine hæmorrhage became profuse at the period, and during the intermenstrual period there was a free loss of blood, lasting over two or three days. Menorrhagia and metrorrhagia were both established. This condition continuing, in spite of the use of ergot and other ecbolic agents, the husband became alarmed, brought his wife to this city, and placed her under my care. Upon examination the uterus was found to be unusually large, flabby, and relaxed. The probe easily entered three and a half inches. The cavity was open and distensible, readily admitting of the free rotation of the sound. The cervix was patulous and eroded, the edges gaping from an old bilateral laceration. The mucous membrane of the cervix and body was highly granular, and bled profusely the moment it was touched. The introduction of the curette brought away large masses of epithelium and gelatinous vegetation, which clearly accounted for the free flow of blood. Hæmorrhage stopped the moment the curetting ceased; in fact before it was complete, for the uterus contracted so firmly under this stimulus that the blood supply was immediately cut off. Within less than a week's time there was a return of hæmorrhage, and the highly vascular condition of the endometrium reappeared. The curette was again introduced and again a mass of epithelial tissue and vegetations was removed. Under this second curetting hæmorrhage again ceased, and notwithstanding the fact that daily applications of tannin and glycerine and iodoform were made to the entire endometrium, the tendency to re-formation of the vegetations went on, and curetting again became necessary. These neoplasms were again removed in less quantity than in the first instance. Local applications were made to the uterine cavity during the three subsequent weeks before the mucous membrane assumed an approximate normal condition.

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Iodide of potash was given in 15-grain doses *ter die* during the entire period, and I have reason to believe its influence was direct.

I am unable to account for the condition of the endometrium observed in this case save on the ground of a syphilitic influence. Would a non-specific endometritis behave in this way? I confess my own experience has never presented a case at all similar. Whilst I have frequently met with granular conditions of the endometrium following miscarriages and in the non-gravid state, they have almost invariably responded to treatment when first instituted and have shown no such tendency to continued reformation of neoplasms as in the two instances cited. The knowledge of a syphilitic history in these cases induces me to refer the influence to the disease in question, and leads me to formulate the law that in all cases of obstinate and persistent endometrial involvement the condition of a syphilitic influence should be questioned.

I cannot but believe that the assumption of a specific influence as an etiological factor in obstinate conditions of endometrial disease may lead to the employment of constitutional treatment *pari passu* with the local which may secure results at variance with our expectations. It is well known that many women have specific disease of which they are wholly ignorant, and we may readily suppose that in a certain number of this class the influence of the specific poison may manifest itself in an impression upon the endometrium either through repeated miscarriages, through catarrhal states inducing, it may be, sterility, or in conditions allied to those described in the cases herein related.

DISCUSSION OF DR. ASHBY'S PAPER.

Dr. WILSON said that he had had similar cases occasionally during his thirty-six years of practice. The facts in one case were in brief as follows: He was called to treat the patient for a persistent metrorrhagia. Under the local use of Churchill's tincture of iodine the patient so far recovered that she was delivered at term of an apparently healthy child. When a few months old this child developed a characteristic syphilitic eruption and died with hydrocephalus. This experience was repeated in the case of a second child. Until some months after the death of her second child the mother presented no signs of syphilis. At that time a general syphilitic eruption appeared, and she never subsequently conceived. Before the first conception mentioned, her physician was unaware of the fact that her husband was a syphilitic.

Dr. BROWNE recalled the case of the wife of a syphilitic man, who, without ever showing any signs of syphilis herself, had several abortions at the third and sixth months. Her uterus was large, flabby, with a tendency to bleed. She was put upon anti-syphilitic treatment, gradually improved, and has since borne healthy children.

Dr. C. O'DONOVAN, Jr., read a paper entitled, "Remarks on the Use of the Manganese Compounds in Menstrual Disorders."

The paper consists mainly in a review of the contributions which have appeared in the various medical periodicals.

Attention was first called to this use of these compounds by Dr. Broadbent, of London, in the Clinical Society Reports, 1869. Next, Drs. Sidney Ringer and William Murrell reported 69 cases in the *Lancet*, January 6, 1883. They reported the drug, permanganate of potash, useful in all forms of intrapelvic atonic relaxation, or engorgement not due to obstruction. They used one-grain pills, giving one pill three times daily, increasing to two pills three times daily.

Dr. F. H. Martin, of Chicago, has published three papers upon the subject, as follows: *The Medical Record*, September 29, 1883; *The New York Medical Journal*, January 24, 1885; and the *Chicago Medical Journal and Examiner*, September, 1885.

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In the discussion of Dr. Martin's second paper Drs. Paoli and Havens reported over 50 successful cases.

Dr. E. J. Doering, of Chicago, reports in the *Chicago Medical Journal and Examiner*, April, 1885, 14 cases—8 successes and 6 failures. Dr. O'Donovan, however, thinks that these cases were not well selected.

In the *New York Medical Journal*, July 27, 1886, Dr. Fordyce Barker enthusiastically supports the use of manganese as an emmenagogue. He mentions three well-defined states of women in which the happiest results may be expected:

"1. In young ladies who come to New York to finish their education, leaving a comfortable home for a boarding-school with more or less uncongenial surroundings, and consequent homesickness, with various neurotic ailments, one of which is apt to be suppression of menses.

"2. In women, whether young or old, who have just returned from Europe, in whom the sea-sickness and other discomforts of the ocean voyage have produced suppression. These he cures invariably.

"3. In those women who develope a decided tendency towards obesity when they become thirty, or thereabouts, and who suffer from various disorders, both physical and psychical, as a consequence, in whom catamenia usually disappear, or become very scanty, causing thereby an aggravation of their other troubles. To these, and to his other patients requiring the remedy, it is administered in doses of two grains three times a day, followed immediately by half a tumbler of water."

Dr. C. E. Billington, of New York, in the *Medical Record*, March 6, 1886, reports four cases, appropriately chosen for the remedy, three of which were cured perfectly, and the fourth much benefited after other drugs had failed. All, however, complained of the usual stomach troubles.

In this paper Dr. T. G. Thomas is reported as using the McKesson & Robbins two-grain pill of manganese binoxide, and speaks of the effects of the drug as "the best I have met with."

Dr. A. F. Kerr, of Williamsville, Va., reports in the *St. Louis Courier of Medicine*, 1886, three cases treated successfully, in two of which peculiar symptoms were encountered; one being an epileptic, with amenorrhœa, in whom menstruation appeared promptly, causing a great improvement at the same time in the epilepsy; the other was a negro who had been subject to vicarious menstruation by the nose, and whose epistaxis ceased upon the reappearance of the menses.

Dr. H. J. Boldt, of New York, in the *Medical Record*, May 26, 1886, says that in selected cases, especially after sea-sickness, he prefers permanganate to any other emmenagogue.

Dr. William T. Ellis, of Livermore, Ky., reports in the *American Practitioner and News*, January 8, 1887, 15 cases, all successes. He uses the one-grain permanganate pill of Parke, Davis & Co.

Mr. T. Maury Deas, of Exeter, England, in the *British Medical Journal*, April 18, 1887, mixes the drug into pills with kaoline oinment, and gives it rather more freely than usual, having given three to six grains three times a day for weeks, and relates one instance in which the catamenia reappeared six months after the commencement of the treatment. He concludes that—

1. Permanganate of potash is a useful and safe emmenagogue, and free from the disadvantages which attend some other remedies of the class.

2. Its use may be continued for months without any bad effects, and success need not be despaired of even after many months.

3. Even when it fails as an emmenagogue, it acts beneficially as a general and nervine tonic.

Dr. Bartholow, of Philadelphia, in the *Medical News* (Phila.), November 22, 1884, quotes from two continental authorities its good qualities in amenorrhœa and

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"dysmenorrhœa, characterized by scanty menstruation and anæmia." This is in an exhaustive article on "Permanganate of Potash, its Action and Uses," in which he takes the ground that the properties of the salt are due entirely to the nascent oxygen set free in the stomach, and likens it to the effects produced by ozone used therapeutically. From this conclusion, after a thoughtful consideration of the views and experience of the various observers from whom I have quoted, I feel obliged to dissent, especially after remembering that similar results were obtained from other compounds of manganese—the chloride (Broadbent), the binoxide, and the inunction of the oleate—which latter must effectually dispose of the nascent oxygen theory, leaving us no doubt of the fact that the benefit is derived from the manganese alone. Nor need we be at all surprised at this when we remember that in the same elemental group with manganese are included iron and nickel, the multitudinous uses of the former being known to every practitioner, and the latter an almost untried remedy, believed by some to possess powers that must be eventually recognized. I am myself prepared to accept Dr. Martin's idea, that manganese is somehow a powerful stimulant of the nerve supply of the genital system; but whether in its direct effect upon the trophic nerves of those organs, or through the centres in the brain or cord which regulate their functions, I must wait until physiologists may have investigated before reaching any conclusion, using, meanwhile, what knowledge has been derived from clinical experience for the benefit of my patients.

The opinion seems to prevail, in the article cited, that the gastric trouble complained of in using the manganese compounds does not occur if at least one-half cupful of water is taken with them.

In the discussion of this paper, Dr. Ashby reported the case of a healthy, well-nourished young lady, age 23 years, who has suffered all of her menstrual life with amenorrhœa. She menstruates scantily about once in from six to eight months. Three weeks ago he placed this lady on two-grain doses of permanganate of potash, thrice daily. When she had taken her 49th pill menstruation came on. Various other remedies had been employed by other physicians without producing this result. Dr. Ashby called attention to the difficulty of getting the drug in pure form. He had found many of the pills unreliable. By changing from one manufacturer to another he often obtained the remedy in a satisfactory form, as was shown by its influence.

Professor B. B. BROWNE read a paper on "Electrolysis for Fibroid Tumors and Pelvic Exudations."

He said: For the past twelve years I have used the galvanic and Faradic currents in the treatment of gynæcological cases, many times obtaining the most satisfactory results after the failure of other means.

The greatest objection to the use of electricity in these cases is the difficulty of keeping the batteries, especially the galvanic, in working order.

In 1877 I used the galvanic current with decided success in the treatment of a large sub-peritoneal fibroid tumor which filled the whole pelvis, and extended above the umbilicus. The tumor was nodulated and seemed to be everywhere adherent; the woman had persistent metrorrhagia, for which she had been previously treated with hypodermic injections of ergot as well as its internal use. Galvanism was applied by introducing the positive pole into the cavity of the uterus and placing the negative sponge electrode over the abdomen. The current was made as strong as the patient could bear without producing decided pain. The application was continued for about fifteen minutes at each sitting and was used twice a week for three weeks; the metrorrhagia was arrested after the third application, and the tumor also

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diminished in size after the first week. The pains and discomfort accompanying it were relieved at the end of the treatment, and the tumor then was less than one-half its original size.

The treatment I pursue at present is more of a radical measure than that above described. I now place the patient under an anæsthetic, introduce the two needle electrodes through the abdominal walls into the substance of the tumor, and gradually turn on the cells until twenty-four are brought into use. I keep on the twenty-four cells for forty-five minutes, then gradually reduce them and turn off the battery and remove the needles. The patient is then put to bed and kept under the influence of opium for 24 hours, or longer if there is any tenderness or pain over the abdomen. She is kept in bed from three to seven days.

If there be menorrhagia I use as the positive pole an intra-uterine electrode introduced into the cavity of the uterus, continuing this for a few short sittings until the tendency to hæmorrhage ceases; then I use the needle electrodes as above described. If we wish to cause the absorption of a fibroid tumor or of an exudation we must place the needles so that the whole of the current shall be localized in the tumor and not diffused by passing through other resisting tissues.

Before using the needles I dip them in a strong solution of carbolic acid. After the needles have been *in situ* for ten or fifteen minutes a yellowish-white foam collects around the negative needle; at the positive pole a whiter fluid sometimes collects. Where the tumor can be readily reached through the vagina it is preferable to insert the needles from this direction.

It is very frequently the case that the positive needle becomes fixed in the tissues, and sometimes it is quite difficult to remove it. We then find it roughened and corroded by the action of the acids which accumulate around the positive pole.

In regard to the kind of galvanic battery that gives the best results in electrolysis, I think the liquid batteries are the best, although the chloride of silver or dry battery is much more convenient to manipulate, and keeps in better condition than the former.

I will, however, relate two cases from many similar ones, showing the effect of electrolysis on fibroid tumors and pelvic exudations.

CASE I. M. H., colored, age 33 years, married ten years, sterile; has not had her menses for three years; abdomen as large as at full term of pregnancy. Suffers great pain in walking and is unable to work; uterine cavity measures four inches; the whole pelvis is filled with a large fibroid tumor that reaches above the umbilicus.

March 5, put her under ether and used the needles through the abdominal walls into the tumor; gradually increased the current to twenty-four cells, and kept them on for thirty minutes; then gradually reduced the current, removed the negative needle, and attached the uterine electrode to the negative pole, inserted it into the cavity of the uterus, and kept it there fifteen minutes, with twenty-four cells in the circuit. The current was then gradually turned off, the patient put to bed, and kept under opium for two days; on the fifth day she got up, and, as there was no pain or tenderness over the abdomen, she was allowed to walk around her room; on the seventh day she returned to her home in the country, with instructions to return at the end of six weeks for another treatment. She returned at the stated time; the tumor had diminished very much in size, the pains in the abdomen were gone, and she was able to walk with comfort, and could do more work than she had been able to do for the past three years. As she had improved so much and as the tumor was continuing to diminish in size, no treatment was made.

About two months after this she returned to the city again, but as she was feeling well and the tumor getting smaller, electrolysis was not used.

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CASE II. Mrs. R., age 22 years, married two years, was confined October 5, 1886, instrumental delivery.

Had gathered breast which confined her to bed for four weeks. Seven weeks from date of confinement Dr. W. was called to see her at night and found her suffering with acute pain in the right inguinal region, radiating up to the umbilicus; the pain was very intense, and required constant hypodermics and large doses of opium to give relief. Ten weeks after confinement Dr. W. found upon vaginal examination a large, hard, tender mass posterior and to the right of the uterus which was immovable and fixed by the exudation.

Pain continued for more than four months, during which the usual treatment for such cases was faithfully persevered with.

On April 7 she was put under chloroform, the two needles were inserted into the mass of exudation through the vagina, and twenty-four cells of the battery were gradually turned on and continued for forty-five minutes. The pains throughout the pelvis were somewhat increased for the first two days after the electrolysis, then a profuse discharge continued for two or three weeks; it was free from smell, was not pus, but looked somewhat like the lochial discharge. The pains now left her and she commenced to gain strength. Six weeks after the operation she went north and remained during the summer. Upon her return, in September, Dr. W. made a vaginal examination and found only the slightest remains of the exudation in some thickening of the tissues at its former site; there was not the slightest pain or tenderness in the parts.

DISCUSSION.

Dr. ASHBY gave a very brief description of Apostoli's method of using electrolysis in uterine fibroids, and said that while he is not prepared to say that it is superior to other methods of treating these tumors, he thinks that it is entitled to careful trial in suitable cases.

Dr. B. B. BROWNE said that he had never used electricity in acute inflammatory conditions, but he had never seen its use give rise to inflammation.

He thought the danger from shock necessarily less in his own manner of applying the electrodes, for the entire strength of the current was thus exerted only on the substance of the tumor, and caused its disintegration.

He considered that this treatment for large sub-peritoneal fibroids of the uterus would to a great extent take the place of hysterectomy or removal of the ovaries, the latter being often impossible if the tumor was of large size.

Electrolysis also breaks up adhesions and thus relieves pain, so that, although the tumor may not be entirely removed, the condition of the patient is greatly improved.

NOTES FROM FOREIGN MEDICAL SOCIETIES.

PATHOLOGICAL SOCIETY OF LONDON.

Etiology of Vesical Growths.—A series of specimens intended to show that irritation of various kinds played a most important part in the production of vesical growths were demonstrated by Mr. HURRY FENWICK. He pointed out that the very earliest form of villous papilloma was to be found in a small patch of stunted papilloma known as subvilloid or cropped villi, and in most of these specimens there existed definite evidence of irritation. Thus, in a case of Dr. Beaven Rake's the patch was found at that part of the bladder which impinged against a straw, coated with phosphates, four inches and a half long. In Dr. Newman's case the tumor was at the apex of the bladder, and seemed due to the irritation of a large oval stone. Mr. Fenwick then alluded to age and to the position of villous papillomata as corroborative evidence. In carcinoma he believed that the irritation of residual urine was a most important causative factor, and

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quoted cases in the museums of Stockholm, Glasgow, and London.

Mr. MARMADUKE SHIELD referred to a case of carcinoma of the bladder which had followed at a considerable interval on epithelioma of the penis; amputation of the penis was followed by stricture; the new growth was attributed to the prolonged irritation of instrumentation and of putrid urine. The specimen had been shown to the society two years ago.

Mr. EVE said that in the specimen he showed of a urinary bladder from a case of bilharzia the thickening of the organ was purely inflammatory.

Dry Caries.—Four specimens of dry caries were shown by Mr. EVE, who referred to the occurrence of this condition in syphilis and tuberculosis. One specimen, from the museum of the London Hospital, was an example of angular curvature taken from a man, aged 39, in which no abscess ever formed, and no pus was found after death. A second specimen, from the museum of the Royal College of Surgeons, was also an example of angular curvature from the dorso-lumbar region. There was caseous material and necrosis, but no evidence of suppuration. Two other specimens showed extensive destruction of bone without suppuration. In one (presented to the museum of the Royal College of Surgeons by Mr. Jonathan Hutchinson), there was complete destruction of the cancellous tissue of the oscalcis, which was replaced by fibrous tissue; there was no evidence of tubercle. The cases ought not to be confounded with rarifying osteitis occurring in connection with simple inflammatory action, or with tuberculosis.

Mr. MARMADUKE SHIELD said that many of the cases of dry caries of the spine were associated with caseation, as in one of the specimens shown. In such a case, where the caseous matter was inclosed in a distinct sac, he thought it most probable that there had been suppuration, and that the fluid part had been absorbed, leaving a caseous mass. Paraplegia was not infrequent where abscess was not present, or at least apparent, while where suppuration was present paraplegia seldom occurred.

Mr. MORRANT BAKER thought this was an interesting clinical observation which his experience confirmed.

Mr. R. W. PARKER had found from the examination of a large number of reported cases that abscess occurred less frequently the higher up the vertebral column was diseased, which might account for it.

Dr. ANGEL MONEY agreed with Mr. Marmaduke Shield's statement.

Mr. WALSHAM thought there was no doubt about its being correct.

Case of Anomalous Sacral Appendage.—An infant under the care of Mr. EDMUND OWEN was shown to the society. On the lower part of the back was a rounded swelling measuring $3\frac{3}{4}$ by $3\frac{1}{2}$ inches, and projecting about seven-eighths of an inch. The lower limit was just above the fold of the nates; the tumor, which was situated a little to the left of the middle line, presented in the exact centre an umbilication. Half way between the dimple and the lower border, and slightly to the left of the middle line, was a soft appendage about 2 inches long, and having somewhat the appearance of a fat "little finger"; the base of the appendage was constricted. On the left side of the base of the appendage was a second small excrescence a quarter of an inch long. Both hands were badly developed, being smaller than natural; all other parts of the body appeared to be normal. The child was born at full term, and there was no history of deformity in the family. Mr. Owen suggested that the rounded swelling was the result of spina bifida, while the appendage, and perhaps the tumor also, was the result of an imperfect attempt to produce a double monster; the sacral region was by no means an infrequent site for the attachment of a fairly developed or rudimentary fœtus.

Mr. MORRANT BAKER and Mr. J. B. SUTTON both agreed that the case was an

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example of parasitic fœtus. Mr. Sutton observed that if during development the medullary fold remained cleft, two complete fœtuses were formed from a single ovum; this was probably the explanation of twins of the same sex in one amniotic sac. From this there was every degree of combination, from Siamese twins to such a case of very rudimentary fœtus as that shown by Mr. Owen.

Imperforate Urethra.—Mr. SHATTOCK showed a fœtus of about four months; the abdomen was greatly distended, and when opened was found to contain a relatively immense cavity which almost filled it; opening into this large cavity the two ureters could be seen. The kidneys were in a condition of cystic disease. The intestine terminated in a well-formed rectum. The urethra was closed. Mr. Shattock discussed the mode of production of this and other similar deformities in a paper of some length, and involving very technical embryological matters.

OBSTETRICAL SOCIETY OF LONDON.

Specimens.—Mr. MEREDITH showed two large pedunculated fibroid tumors, in both of which axial rotation had occurred, and in one to an extent involving occlusion of the cervical canal and retention of the menses.

Dr. LEWERS exhibited the cervix uteri, removed by supra-vaginal amputation on account of carcinoma, from a patient in whom abortion had been induced at the fourth month, a fortnight previously.

Dr. CARTER showed an epitheliomatus growth removed from the cervix by galvano-cautery.

Dr. W. DUNCAN exhibited ovaries and a piece of jejunum, the latter showing perforation after ovariotomy.

Dr. W. S. GRIFFITH showed a specimen of myxoma fibrosum of the chorion.

On the Effect of Ergot on the Involution of the Uterus.—A paper on this subject was read by Drs. G. E. HERMAN and C. O. FOWLER. They pointed out that the recommendation of a mixture containing ergot during the lying-in period was based upon a general knowledge of the action of such drugs and of the process of involution. No observations had been made, so far as they were aware, as to the actual effect of this treatment upon the process of involution. They had sought to ascertain its effect by measuring the height of the uterus above the pubes on successive days of the lying-in, in two sets of patients—one set (fifty-eight in number) treated with an ergot mixture for a fortnight after labor, the other set (sixty-eight in number) given a single dose of ergot after labor and no more. They found that in the cases treated by the continuous administration of ergot, the uterus diminished more rapidly in size than in those in which one dose only was given. They compared the two sets of cases as to the duration of the lochial discharge, but on this they did not find that the ergot treatment produced any appreciable effect.

Dr. BOXALL contrasted two series of cases, each referring to 100 patients. Every alternate patient admitted to hospital was given a mixture three times a day, containing ext. ergotæ amm. m. xv for a dose, during the first three days of lying-in. To avoid fallacy in the comparisons, the two series of observations were carried on simultaneously. The ergot mixture was given in the first series. In the second its routine administration was omitted, but in the series were included thirty-one patients for whom, on account of hæmorrhage, severe after-pains, etc., ergot was subsequently prescribed. The results were presented in a tabular form. By contrasting the two series of cases Dr. Boxall concluded: (1) That though the routine administration of ergot during the first three days of the puerperium exercised no appreciable effect on the date at which the lochia ceased (in this respect confirming the observations of the authors of the paper), the practice of giving ergot mixture during the three days following delivery tended to prevent the formation of clots

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and to hasten their expulsion and to diminish the frequency, intensity, and duration of after-pains. (2) That if omitted at first but given after, the ergot mixture tended to promote the expulsion of clots and to relieve after-pains. Dr. Boxall considered that (*a*) the routine practice which he had followed, of administering a douche at 110°–115° F., not only immediately after labor, but also twice a day during the puerperium until the lochia ceased (a powerful stimulant to the uterus); (*b*) the ergot which was given in every case immediately after labor, and (*c*) the ergot mixture which was prescribed subsequently in thirty-one of the cases included under the second series, all tended to lessen the difference which he had shown to exist between the two, and that in consequence the beneficial effect of the ergot mixture was even greater than that shown by the figures given in the tables.

Dr. DAKIN had made observations as to the effect of systematic administration of ergot for some days during the puerperium on cases in the General Lying-in Hospital while he was house physician. They did not support the view which the authors took, but showed that the average day when the fundus had sunk to the brim was 9.12 when ergot was given once only, and 10.3 when ergot was given daily for three days. There were, however, other fallacies than those named by the authors, for, in addition to the condition of bladder, rectum, thickness of abdominal wall, and weight of the uterus in the pelvis, there was the condition of the uterine axis, whether flexed or inclined anterio-posteriorly or laterally. He had found in a number of consecutive cases taken at random, that one-sixth of the uteri were in the axis of the body. These ought not to be compared with cases of anteflexion and version usual to the uterus during the puerperium, as there might be a difference of three inches or more on this account alone. In one of Dr. Dakin's cases the fundus was found one day in the left hypochondriac region nine inches from the pubes, whereas in the next it was to the right of the middle line, and only measured five inches and a half. He agreed with Dr. Boxall that the lochia were a better criterion of the rate of involution, and in this his own figures did not agree with the author's, for with one dose of ergot the average was 9.8, with three days of ergot 11.6. With reference to the retention of clots and the occurrence of after-pains, he found that, out of 92 cases where ergot was given for three days, 51 (55.4 per cent.) had after-pains, and 22 (23.9 per cent.) passed clots. Out of 103 cases where only one dose of ergot was given, 64 (62.136 per cent.) had after-pains, and 141 (3,592 per cent.) passed clots, so that the ergot cases had fewer after-pains but passed more clots. The unergotized cases, like Dr. Boxall's, passed clots up to the tenth day, whereas the ergotized ones passed no clots after the sixth day. It seems that the continuous use of ergot, by keeping up a tonic state of contraction, instead of allowing normal alternate contraction and relaxation, would tend to favor retention of clots and to prevent the normal process of involution. This was to a great extent borne out by his figures.

Dr. SWAYNE wished to know if chloroform was used during delivery, and in how many of the cases. In order to ascertain accurately the effect of ergot given after delivery, in his opinion it was necessary to remove all disturbing influences, such as the administration of anæsthetics during labor.

Dr. HERMAN, in reply, said that the cases observed by Dr. Dakin (which seemed to support an opposite conclusion to that arrived at by Dr. Fowler and himself) were only given ergot for three days, while their cases took it for a fortnight, and he did not therefore regard the two sets of cases as strictly comparable. The sources of error from the mode of measurement pointed out by Dr. Dakin had been present to the minds of Dr. Fowler and himself, but there was no other mode which was not

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attended with sources of fallacy. Such errors as arose from anteversion and anteflexion of the uterus were equally distributed among the two sets of cases, and so did not vitiate the comparison. Dr. Fowler and himself had paid particular attention to the occurence of lateral displacement, and had found that it depended, in the majority of cases, on the position in which the patient had been lying. They had not referred to it in this paper, as it did not seem to have any important bearing on the subject of the paper. In reply to the question of Dr. Swayne, chloroform had been given in six of the cases, namely, three of each series.

HARVEIAN SOCIETY OF LONDON.

The British Medical Journal says of the Harveian Society of London: The annual general meeting and *conversazione* of this society took place on Thursday, January 19, at the Marlborough Rooms, Regent street. A business meeting for the election of officers for the ensuing year and for the usual complimentary votes of thanks to the retiring officials was held in the lower room; and the retiring president, Mr. Edmund Owen, delivered an address which was heard with close attention by a large audience Dealing chiefly with the subject of medical education from the point of view of a hospital teacher, Mr. Owen pointed out with considerable force the disadvantages under which students of medicine must labor so long as the preliminary subjects continue to be a part of the hospital course, and showed how impossible it has become for any but the most brilliant to acquire real knowledge, owing to the constant demand made upon his time by periodical examinations which leave no interval in which to assimilate the knowledge thus forced into the mind. He criticised somewhat strongly certain recent enactments of the University of London relating to students failing to obtain honors, which he considered were more advantageous to the examiners than to the students themselves. At the close of the address, which was warmly applauded, he introduced the president for the ensuing year, Mr. W. Sedgwick, who briefly returned thanks for his election on taking the chair.

Treatment of Loose Cartilage in Knee-Joint.—Mr. HERBERT ALLINGHAM read a case of suture of the internal semilunar cartilage of the knee to the head of the tibia. The patient was a man, aged 35, who had been constantly laid up by slipping of the internal fibro-cartilage of the knee. An incision two inches long was made, with its centre over the cartilage. The knee-joint was opened, and a strong catgut passed through the fibro-cartilage and the periosteum of the upper end of the tibia. The joint was washed out with carbolic lotion, and the synovial membrane united with deep catgut sutures; the wound was then closed without drainage. The patient, who was shown to the society, made a good recovery, and can now follow his employment.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON.

A very interesting case was shown by Dr. W. R. Gowers and Mr. Victor Horsley to the fellows of the society. It was that of a gentleman of middle age, who had for more than three years suffered with acute pain in about the middle of the back, just below and inside the lower angle of the left scapula. The spot was very tender as well as painful, but below the region of the fifth nerve there was almost complete anæsthesia as well as complete paraplegia; the accuracy of the delimitation was more distinct on the left side than the right. After some discussion the diagnosis of tumor of the spinal cord was agreed upon, and Mr. Victor Horsley undertook the operation necessary for its removal. On June 9, 1887, the spines and laminæ of the fifth and fourth dorsal vertebræ were removed without laying bare the cause of mischief; but when the greater part of the posterior part of the

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third vertebra had been removed, a myxoma about the size of a filbert became visible in the spinal canal, lying on the right side, and compressing the spinal cord. This was shelled out without difficulty and no further new growth was found. The pain was for a time slightly relieved, but again and again recurred with great severity, and the power of motion was only slowly and intermittently regained during the first three or four weeks. The pressure over the wound was treated by a pad and strong jacket; the local pain gradually diminished; the motor power gradually returned to the lower parts; and after seven months the use of the lower limbs, though a little stiff, had become almost natural, and the remains of the laminæ had come so near together in the well-healed cicatrix that any further external support seemed unnecessary.

Case of Intra-peritoneal Rupture of the Bladder; Abdominal Section; Suture of the Bladder; Recovery. By W. J. WALSHAM, F. R. C. S.—C. H., aged 22, was admitted March 1, 1887, into St. Bartholomew's Hospital under the care of Mr. Walsham. He had been drinking the night before, and in a fight was butted by his opponent in the abdomen, his bladder being full at the time. He passed a night of great agony and was brought in a cab to the hospital the following morning, but he was then suffering very little shock, and walked into the surgery with the assistance of two friends. He complained of pain in the lower part of the abdomen, and of having been unable to pass any urine since the blow, although his bladder was uncomfortably full at the time. The perineum was natural, and there was no history of stricture. On passing a catheter no urine flowed, although the point was ascertained to be in the bladder by the finger in the rectum. On depressing the handle the catheter was felt to free itself with a jerk, and its point could be then felt more plainly than natural through the abdominal walls. Bloody urine now escaped, the flow varying with respiration. About twelve hours after the injury Mr. Walsham opened the abdomen, and having discovered an intra-peritoneal rent in the posterior wall of the bladder, sewed it up with nine Lembert sutures. The sutures were passed through the muscular and peritoneal coats only, and one was placed above and below the upper and lower angles of the wound respectively. The bladder having been forcibly injected with eight ounces of boric acid solution and found water tight, the peritoneum was irrigated with about two gallons of warm boric acid solution, and the abdominal wound closed as in ovariotomy. A catheter was left in the bladder for two hours, and the patient subsequently reminded to pass his urine every four hours. There was little shock and the patient recovered. Daily notes were given at length. The author remarked that there had now been seventeen cases in which abdominal section had been performed for rupture of the bladder, three extra-peritoneal and fourteen intra-peritoneal. Of the three extra-peritoneal cases two died and one recovered. In the successful case the wound in the bladder was secured to the abdominal wall but not sutured. In the fatal cases death was due to shock. The rent in one was found securely sutured at the *post-mortem* examination; in the other the rupture had not been discovered on opening the abdomen. Of the fourteen intra-peritoneal ruptures the rent in the bladder was sutured in eleven, and in three a drainage-tube was placed in the wound but no sutures employed. Of these three one recovered and two died, death being due to peritonitis and suppression of urine respectively, Of the eleven cases where the rent in the bladder was secured by sutures five recovered and six died, death being due in three cases to peritonitis, in two probably to shock, and in one to hæmorrhage from a perineal incision employed for exploration. In the three cases of peritonitis the sutures had given way in one, and a leakage had occurred in the lower

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part of the wound in the other two. In the five successful cases Lembert sutures were employed, and the peritoneum was washed out, and in only one was a drainage-tube used. The author discussed: 1, the advisability of early operation; 2, the importance of using a suture which will not become softened too soon, and of ascertaining before closing the abdominal wound that there is no leakage from the bladder; 3, the cleansing of the peritoneal cavity; 4, the inadvisability of a preliminary incision in the perineum, or of a subsequent incision in that region for the purpose of drain; and, 5, the question of tying in a catheter after the operation. A table of the seventeen cases was given, sixteen of which are in Sir William MacCormac's table appended to his work on "Abdominal Section."

Mr. HOLMES took a peculiar interest in the subject, and that, not only because he believed that he had been the first surgeon to suggest this method of treatment. It was a suggestion that must have become obvious as soon as we learnt how freely it was possible to deal with the abdomen. The preliminary diagnosis was sometimes very difficult. He had seen a case in which the *post-mortem* examination showed a rupture, but in which the patient during life had passed water without great difficulty. Dr. Weis, of Philadelphia, had suggested the preliminary injection of the bladder with fluid, but that, he thought, added little to the certainty in doubtful cases. The reason of the retention of the capacity to pass water after rupture was still to seek. If, as he was inclined to think, it might depend on the fact that the rent in the wall of the bladder was incomplete at first, then preliminary injection would be very dangerous. If it was due to the temporary plugging of the rent by the intestines, the safer course would be to cut down upon it early. It was important for diagnosis to make a preliminary exploration with a catheter. In his own case that had been sufficient to render the diagnosis quite plain. He doubted whether it was a good plan to inject the bladder after putting in the sutures; it might help to tear them out, and if they were near enough together it would be probably unnecessary. In all other points he cordially agreed with Mr. Walsham's treatment. Perineal incision had better be avoided; it was the cause of death in Mr. Teale's case, and had been merely vexatious in his own. He thought we should come to regard these cases as comparatively easy, so great was the improvement in abdominal surgery, compared to distant days, when he could remember seeing a patient with ruptured bladder but still looking fairly strong, come under Mr. Cæsar Hawkins's treatment, who diagnosed his injury rightly enough, but had nothing further to do than to watch him die of peritonitis.

Mr. BUTLIN said that he had made a *post-mortem* on a case of Mr. Willett's, in which an orifice had been found in a sutured bladder after death, and that had led several who had seen it to make up their minds not to refrain from injecting the bladder after suture in any similar case.

Mr. T. SMITH remarked that the operation could not be called completed until the bladder had been proved water-tight, as in cases of vesico-vaginal fistula.

Mr. BARWELL approved of the injections before and after operation, though he had had no opportunity of practicing them.

Mr. WALSHAM, in reply, had only a few words to say. He thought the preliminary injection might do a little good and no harm; and the injection subsequent to the sutures, he felt important, for in three fatal cases a leak had been shown to exist.

MEDICAL SOCIETY OF LONDON.

Nævoid Growth of Tongue.—Mr. PITTS also showed a child with a nævoid condition of the tongue. This had gradually increased in size until it hung out of the mouth, necessitating the removal of a triangular piece of the tongue to reduce its

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size. It was still increasing in size, and he proposed to try the effect of multiple applications of Paquelin's cautery.

Case of Nævus of the Tongue.—Mr. JOHN MORGAN showed a male child, on whose tongue a nævoid growth was noticed when 18 months old. As since that time it had only increased in size *pari passu* with the growth of the tongue, and as he had on several occasions witnessed spontaneous disappearance of similar growths, he had decided to await the result of Mr. Pitts's experiment with Paquelin's cautery.

Electric Illumination of the Male Bladder and Urethra.—Mr. HURRY FENWICK showed a series of instruments made by Leiter of Vienna, and Hartwig of Berlin, armed with incandescent lamps for illuminating the male bladder and urethra, and demonstrated their capabilities upon patients and "dummies." He observed that endoscopy had attracted the attention and efforts of the profession since the commencement of the century, but the candle power hitherto used had proved insufficient. Quite recently (1887), however, the smallest Edison lamp had been employed, and the result had been brilliant. Instead of a cumbersome, costly, and fickle instrument, like the Nitze-Leiter endoscope of 1880, we now possessed a simple, practical, and safe apparatus by which the bladder or urethra could be examined in as strong a light as if it was viewed by direct sunlight. Every detail of the vesical or urethral surface was discernible under favorable circumstances, even to the small vessels coursing over the mucous membrane. Mr. Fenwick mentioned certain elements necessary for a successful bladder examination, and explained that the vesical endoscope needed much practice and patience before the observer could become proficient with it. He believed that the value of electric endoscopy could hardly be estimated, and he predicted that it would at once assume a high rank in the diagnosis of obscure vesico-urethral disease, and would become almost as indispensable as the opthalmoscope or laryngoscope. [Mr. Schall of Wigmore street (Mr. Leiter's agent for Great Britain) was in attendance, and showed various batteries for working the endoscopes.]

Mr. WALSHAM bore testimony to the ease with which he had been enabled to see a stone in a dummy bladder.

Dr. ROUTH asked whether the instrument had been applied to the examination of the uterus.

Mr. FENWICK, in reply, said that the instrument would doubtless be applicable to the examination of any orifice of the body.

Case of Unilateral Sweating.—Dr. ANDERSON showed a young man who suffered from profuse perspiration limited to the right side of the head, face, and neck. There was nothing in the man's history to give a clue as to its causation, and no history of syphilis. Two years ago, when on frontier service in Mexico, he had noticed what he called "powerlessness" of the right arm. He was unable to raise his right arm on getting up in the morning, but this generally passed off in an hour or two. The man's general health was good. He (Dr. Anderson) asked for opinions as to the cause of this curious condition and suggestions for treatment.

Thoracoplasty.—Mr. PEARCE GOULD read a paper on thoracoplasty, or Estlander's operation, and related the histories of four cases under his care.

CASE I. A girl, aged 9, under the care of Dr. Gilbart Smith, at the Royal Hospital for Diseases of the Chest, had in May, 1886, suffered from left empyema for two years. The left chest was considerably retracted, and there was a profuse discharge of pus from a sinus in the eighth interspace in the anterior axillary line. Mr. Gould made a vertical incision up from the sinus, and removed about an inch and a half from each of the fourth, fifth, sixth, and seventh ribs. The girl left the hospital in August, much improved in her general health, and losing only a small quantity of sero-purulent fluid from the

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old sinus. She was readmitted in January, 1887, as the discharge had become purulent and more abundant, and the cavity had not shown any further tendency to close. Mr. Gould repeated the former operation, and removed parts of the second, third, fourth, fifth, and sixth ribs, dividing them at the anterior and posterior limits of the empyema cavity. The child recovered and was recently shown at a meeting of the society. The cavity in the chest is completely closed, and the girl's condition is very good.

CASE II was a boy, aged 9, also under Dr. Gilbart Smith's care at the Royal Hospital for Diseases of the Chest. He was admitted in January, 1887, for fistulous empyema, from which he had suffered for two years. The left side was retracted; in it were two sinuses in the second and sixth spaces, which discharged pus freely. The boy was anæmic, thin, and very delicate looking; his urine contained one-third its volume of albumen, and his liver was considerably enlarged. The sinuses were dilated, and the cavity was carefully drained and cleansed daily. Under this treatment he improved, but after two months matters came to a standstill, and on March 28 Mr. Gould explored the chest, found a considerable cavity, and through a vertical incision removed considerable lengths of the second, third, fourth, fifth, and sixth ribs. The ribs were severed in front at their junction with their catilages, and behind at the limit of the cavity. The very thick pleura within the ribs was also freely excised. The boy recovered well, and was shown to the society. The left side of the chest is greatly flattened on all sides, and there is still a sinus which discharges a few drops daily. His general condition is excellent. The urine is free from albumen, and the liver is not to be felt below the ribs.

CASE III was a boy, aged 12, who had measles followed by pneumonia and pleurisy six years before. Paracentesis was performed twice. Further surgical aid was refused, and a year after the empyema burst externally, and had continued to discharge freely ever since, a period of five years. On admission the left chest was quite fixed, and presented three sinuses. The heart-beat was displaced outwards and upwards. On July 14 the sinuses were connected by an incision, and led into a cavity through the second space, and the tissues were removed from the second to the seventh ribs, which were then removed *in toto*, together with much thickened pleura. Hæmorrhage was considerable, but was controlled by irrigation; a counter opening was made, and the opening closed. The lad left the hospital on August 15 with the wound almost healed, and in very much improved health.

CASE IV was an adult, aged 25, who had pleurisy in 1884, which was aspirated. After a varied hospital experience, she was admitted with considerable flattening of the right chest, and with a fistulous opening at the angle of the scapula, and another in the seventh space below the nipple, which discharged abundance of fœtid pus. By means of an incision ten inches long in the axillary line, the ribs from the second to the ninth were excised, fifty-four inches in all. The pleura, which was nearly an inch thick, was also freely excised. She died suddenly the next morning. The heart was adherent throughout, and much displaced and fatty. Mr. Gould explained the object of these operations and their indications, but he deprecated resort to them merely to save time. He insisted on the necessity for exploring the cavity before operating in order to adapt the operation to each case. The success of the operation varied, but he maintained that this would be increased as it was more extensively practiced.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

Dr. JOHN PLAYFAIR showed the lungs of a child with a large pin impacted in the left bronchus. The little patient,

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of 15 months, was said to have swallowed a pin. Various unsuccessful attempts had been made at home and in the Royal Infirmary, to determine the whereabouts of the pin. Soon after admission into the Sick Children's Hospital, the child was seized with grave dyspnœa, necessitating tracheotomy. This relieved the patient much, and in due time it was dismissed apparently well. About a year later the resident physician was asked to go to see the child, which he found dead. The cause of death was cancrum oris; but on *post-mortem* examination a large pin was found impacted in the left bronchus, not far from the bifurcation of the trachea.

Mr. SYMINGTON showed a beautiful section to illustrate the anatomy of the ear and naso-pharyngeal connections. Among other points of interest it demonstrated that the antrum does not communicate directly with the internal meatus, but with that passage through the medium of the infundibulum. The section also gave further support to the view that the Eustachian tube is normally a closed tube.

The Place of Specialism in General Practice, with Reference to Diseases of the Eye, Ear, Throat, and Nasal Cavities.—Dr. GEORGE HUNTER (Linlithgow) read an elaborate paper on the above subject. By means of illustrative cases, he showed the value which attached to a fair working knowledge of these diseases, more especially in the case of the general practitioner, and he advanced a strong plea for their fuller study in our medical schools.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

The Surgery of the Thyroid Gland.—Mr. FOY read a paper on the surgery of the thyroid gland. After tracing the history of operations for the ablation of the gland and extirpation of tumor, he compared the modern operation of Dr. P. H. Watson with that recommended and practiced by Desault at the Hôtel Dieu in 1791. He condemned the many minor operations of setons, caustics, injections of irritants,and tapping, and gave the history of a successful removal of a cysto-adenoma from the right lobe of a young married woman's thyroid.

The PRESIDENT said that Dr. P. H. Watson had advocated the operation for the complete removal of the gland, while at the same time indicating that the surgeon must be prepared to see the patient die on the table—a fatality which occurred at least once in that distinguished surgeon's practice; and he dwelt strongly on the necessity of leaving the capsule untorn, especially the capsule surrounding the vessels.

Mr. STORY inquired what the indications were for operating on tumor on the thyroid gland.

Mr. KENDAL FRANKS did not think the size of a tumor in the neck a guide to operative procedure. Small tumors indicating a tendency to press backwards and sometimes down under the top of the sternum caused great dyspnœa and endangered life.

Mr. W. THORNLEY STOKER had operated in several cases of goitre, both by removal and by division of the isthmus, and in his experience the operator must be prepared for terrible hæmorrhage. He condemned, with Mr. Franks, the practice of passing a seton through the gland. The *rationale* of the operation of the division of the isthmus was that it limited the blood supply of the gland. He found it gave relief for the time and set the trachea free. As regarded the opening of the capsule he had no decided opinion, being unable in his operations to find out where or what it was; for, when he cut down on the diseased structure, he came on the gland covered by enormous veins, some as big as his thumb, and whether these were inside or outside the capsule he had not been able to determine.

The PRESIDENT said that thirteen years ago he had a case of acute goitre, and, at the suggestion of Dr. Purser, he had given five or ten grains of quinine three times a day, and in a week or ten days the growth

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stopped. Happening to be with Sir William MacCormac in St. Thomas's Hospital he saw a patient with a tumor on the front of the neck that grew rapidly, and he mentioned the quinine cure. Sir William MacCormac tried it, and in fourteen days the growth ceased and the patient recovered.

Mr. FOY, in reply, considered that the operation was justified when the tumor was growing quickly, when dyspnœa or dysphagia was marked, or when any evidence of malignancy was present, and also when the most improved internal and external medication had not given good results. In the swampy districts of the Carolinas a malarial type of goitre was prevalent which was amenable to treatment by quinine; but the occurrence of such cases in this country must be very rare. Setons, tapping, and caustics were not free from danger, and in many cases did not give favorable results. As for Sir Morell Mackenzie's method of injecting perchloride of iron, he mentioned it only as a treatment most unsuitable and to be avoided.

SOUTH INDIAN BRANCH OF THE BRITISH NEDICAL ASSOCIATION.

Severe Injury to the Spinal Cord.—Brigade-Surgeon SIBTHORPE related the case of a young man who was admitted into the General Hospital six days after a severe blow in the interscapular region, which was immediately followed by extensive paralysis. When admitted he was paralyzed in both upper and lower extremities; respiration was almost purely diaphragmatic, the accessory muscles of respiration also moving the upper part of the chest somewhat; there was anæsthesia below the nipple level, and in the upper extremities below the elbows. He gradually sank and died on the seventh day. A few hours before death the temperature began to rise rapidly, and finally reached 109° F. in the mouth. At the necropsy the anterior part of the body of the fourth cervical vertebra was found to be bruised, and the membranes of the cord were at this level injected; the cord appeared normal externally, but on section a patch of red softening, the size of a large pea, was seen in the centre, just below the third pair of cervical nerves. The cord appeared to be otherwise healthy. The internal organs were congested, especially the posterior border of the right lung.

THE CLINICAL SOCIETY OF MANCHESTER, ENGLAND.

Etiology of Pelvic Disease in Women.—Dr. LE PAGE read a paper on the etiology of those pathological conditions in woman which had their origin in the pelvis. The principal points in which woman differed physiologically from other females were considered. In the lower animals, the rut was short, the anti-rut long—that is, sexual activity was of short duration; sexual repose was prolonged. In woman, there was no interval during which the sexual passion was in abeyance. The life of a woman naturally divided itself into three periods: 1, the pre-menstrual; 2, the menstrual; 3, the post-menstrual; and many of the diseases of women may be traced to the first period, the whole of which was occupied in the development of the organs of sex. The causes of pelvic disease, operating in the period bounded by the maturation of the sexual organs and the decadence of generative functional activity, were then reviewed.

Hydronephrosis. — Mr. BISHOP showed the kidney of a patient suffering from hydronephrosis, which he had removed a month before; also, a microscopical section of the degenerated renal tissue, showing the atrophied Malpighian tufts and tubules. The operation was post-peritoneal and extracapsular. Some collapse followed, but the patient made a good recovery.

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FOREIGN CORRESPONDENCE.

MR. EDITOR: It is a fact that in Italy as well as in Germany, some of the best schools of medicine are not to be found in the large cities. Our ancestors probably were right in thinking that tranquility was a necessary thing to students desirous to penetrate the regions of science, and that their minds could better be concentrated upon their favorite studies in small centres, where distractions and enticements incident to life were to be far less found. This is especially applicable to Pavia, which, although being only a secondary city, possesses the most honored university of the kingdom. Milan, the capital of Lombardy, distant only one hour by train from Pavia, has a population of over 300,000 inhabitants, a magnificent hospital, and other sanitary institutions, and yet has no university. Padua, Pisa, etc., are only second and third rate cities, but their universities are world renowned.

My recent trip to Pavia gave me an opportunity to visit her great university, and my gratification was such that I concluded to send you this communication.

The city of Pavia has at present 35,000 inhabitants. Obscure as is her origin, it is said that it dates back many centuries before Christ; and, although now of not much importance, yet once she was the capital of an important republic, and the home of many emperors. The city itself cannot be called beautiful, but is situated upon the most fertile field of Lombardy, and is widely known for her celebrated university.

Records cannot be found to enlighten us on the origin of the university, but it is known that even before the ninth century the university of Pavia enjoyed a foremost reputation, and in the year 1361 it became officially recognized by a diploma of Charles VI granting the right to teach law, philosophy, medicine, and arts.

The present building is a large one, two stories high, with a frontage 185 metres long. It is divided inside by five large open court-yards, surrounded by five porticoes. Under the colonnades there are several inscriptions and monuments dedicated to some of the past illustrious teachers. On the first floor are situated the anatomo-pathological museum, the museum of normal anatomy, and the anatomical theatre. The latter is a well-lighted large hall, artistically painted, and was inaugurated by Scarpa in the year 1785. It contains an admirable bust of this great anatomist. Wide stairs lead us to the second story, similar in all particulars to the lower one. It is also ornamented with a fine internal colonnade, busts, and inscriptions. On this floor are situated the zoological museum, as well as that of comparative anatomy, of geology, and of mineralogy, and an excellent anatomo-pathological laboratory. Several lecture-rooms are situated here and there; the most admirable of these is that of physics. It contains the life-size statues of Galileus and of Cavalieri; also two bass-reliefs representing Europe with Newton's effigy, and America with Franklin's effigy. In this room Volta delivered his famous lectures, and a bust of him is placed on the wall in the centre of the hall, and bears underneath the following epigraph:

Alexander Volta
in re electrica princeps
vim raiæ torpedinis meditatus
naturæ interpres et æmulus.

Noteworthy in this university is the botanical institute. The laboratory is furnished with over thirty microscopes and several microtomes; has a rich collection of specimens of the vegetable anatomy and pathology; also several chemical and physiological apparatuses. The garden is supplied with about fifty thousand plants, and the library with over five thousand volumes.

The museum of zoology had its origin in the year 1775, in a rich collection donated by Spallanzani; in 1786 the Van-Hocq collection was added, and ever since it has

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been constantly amplified to its present dimension. Many rare animals can be seen in this museum, and most characteristic is the collection of the lacustral pelagic fauna. All the genera and species are arranged as in the catalogues of the British Museum, and as Claus' classification.

The first specimens in the museum of comparative anatomy were prepared by the celebrated Scarpa (1782). A rich collection has been added ever since by his followers. The museum contains a fine collection of skeletons; also many specimens of the nervous system of the cuttle-fish and torpedo prepared by Scarpa; many embryological wax preparations and numerous animal monstrosities.

The institute of normal anatomy has great traditions. It is probably sufficient to name Carcano, Aselli, Scarpa, Porta, who have so much honored this institute and made it foremost in Italy as well as abroad. The number of preparations collected in the museum is 2,387, and are placed in four large halls. In the department of osteology there can be seen a large collection of skeletons of all ages (from 101 years down to two months of gestation); a collection of skulls of individuals of different races, or of a different anthropological type; a group of skulls of famous men, as of Scarpa, Volta, and others, who stood high in all sciences. In the department of angiology I saw four complete human statues and several special preparations; a grand collection of lymphatic injections made with mercury by Panizza. Notable are also two wax statues showing all the lymphatics of the body. Noteworthy are the historical preparations of Scarpa of the olfactory nerves, those of Panizza of the nerves of taste, and a large wax model of the organ of hearing, which received the prize at the London exhibition of 1862. In the department of embryology there were to be seen several injections of the fœtal and maternal cotyledons prepared also by Panizza. There was also an Egyptian mummy and the body of a man whose skin was as mottled with pigmented maculæ as the skin of a leopard. The theoretical teaching of anatomy in this university is triennial.

Experimental physiology has been taught since 1783, by Rezia, Jacopi, Hildebrand and others. The laboratory is well furnished with a complete armamentarium for vivisections, with several microscopes, electric batteries, saccharometers, spectroscopes, cardiometers, pneumathometers, etc., etc. Notable is also the collection of anatomical and histological preparations. The teaching in this branch is biennial.

The institute of general pathology and histology was founded in 1863 by Montegazza. Professor Bizzozero followed in in 1869, and since 1879 it has been under the direction of Professor Golgi. In 1884 there was added a laboratory for bacteriological researches, furnished with thirteen splendid microscopes, microtomes, etc.

The library of the university is worthy of special attention. Since 1754 it was recognized that a library was much needed, but it was not until 1772 that it was founded by Fontana. Haller's library was soon added to it. The celebrated Joseph Frank also bequeathed a large sum, and directed that the interest derived from it be employed to buy works on medicine and natural sciences, and that these be added to the library. Since then the library has been increased to the present large dimensions and importance by many donations from the government, citizens, and scientific institutions. The number of volumes is 120,000, with the addition of 70,000 pamphlets. Notable is the collection of historical works. Worthy of note are the anatomical tables of Bourgery, Cruveilhier, Blainville, Barkow, and those of Hebra on skin diseases; Mondino's Anatomy, edited in 1478; the medical works of Falcucci, published in 1481–84; the principal edition of Celsus' works, brought to light at Florence in 1478, and the little work of Cananus on the muscles of the human body, which is thought to

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have been printed about the year 1541, and of which only four copies are believed to be in existence.

The teaching of materia medica was commenced in 1770, by Professor Borsieri, who at that time had to lecture on chemistry, pharmacy, and clinical medicine. The laboratory occupies five rooms, and the museum is supplied with a rich collection of medicinal substances, especially of exotic plants.

The museum of morbid anatomy occupies three rooms, and has about 1,600 specimens. In the laboratory are placed the specimens of pathological histology, and the reports of 7,614 autopsies. The teaching in this department is biennial.

Michel Rosa first taught hygiene in 1767. Among the illustrious teachers in this department mention must be made of G. Peter Frank, who wrote the first large treatise on hygiene.

The laboratories of medical jurisprudence, of general and pharmaceutical chemistry, are well provided with instruments, etc.

By looking over the history of the university I found that even in the fifteenth century Pavia was well supplied with eminent teachers. Among these I will mention A. Guaineri, who taught medicine in 1455, and Ferrari Dagrado, who read medicine and philosophy from 1432 to '72.

In the beginning of the sixteenth century the studies were interfered with by many wars, but these having ceased, the university soon regained her former glory. Of the teachers, I find the names of G. Cardano (1536), a most learned encyclopædian, who left many valuable works on medicine and mathematics. J. B. Leo Carcanus (1573), a reputed anatomist, whose observations, especially on the heart, we hear frequently spoken of in medical literature. Over three hundred auditors used to attend his lectures.

In the latter half of the sixteenth century horrible wars again broke out, bringing with them poverty and pestilence. A period of decadence then began for the university; all her former privileges were withdrawn, and the number of students diminished considerably. Of the teachers who upheld the old noble traditions of the Pavesian school, we must remember the modest Gaspar Aselli, the discoverer of the lacteal vessels, who taught anatomy in the year 1624. His discovery dates anterior to that of Harvey's on the circulation.

During, and since the eighteenth century, the university gained in honors and students, and had as teachers men who stood high in science and letters. Among these:

L. Spallanzani, called to the chair of natural history in the year 1769. His studies and experiments marked a new era in physiology. By numerous experiments on artificial fecundations he cleared the way for an understanding of the fundamental laws of generation in vegetables as in animals. He discovered the white blood-corpuscles in the salamander and in frogs; and was the first to study artificial digestion. Besides all these, he made many important researches, in the groundless belief of a sixth sense of the bats, on the respiration, circulation, on the phosphorescence of the sea, and on the volcanic phenomena; all of which greatly increased the patrimony of science.

G. A. Scopoli held with honor the chair of chemistry and botany from 1776 to 1788. He studied the metals, the fossils, and the insects. Many plants, which he classified, bear yet the same name given by him.

L. V. Brugnatelli followed Scopoli in 1788. He discovered the suberic acid, the erythric acid, the fulminating silver; he also deserves the credit of discovering uric acid in the excrements of the silk-worm; and we owe to him the first observations on galvanoplastic. He wrote a reputed treatise on chemistry and materia medica, and honor is due him for the great zeal with which he promoted the diffusion of chemical studies in Italy and abroad.

Alexander Volta, who had already become famous for the discovery of the

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electrophorus and for his researches on the electrical capacity and on the inflammable gas, was elected professor at Pavia in 1778. Here he invented the electric condenser, made numerous studies on the atmospherical electricity, and in January, 1800, he constructed the pile. This great man, worthy of the highest place in the history of civilization, left the chair in 1813, and died in 1827. A life-size marble statue of him can be seen in the centre of the western court-yard.

Peter Moscati held the chair of anatomy from 1764 to 1772, and improved with much zeal the anatomical studies which had been much neglected. He held that there was no substantial difference between the inferior animals and man, and that the primitive posture of man ought to have been that of a quadruped. He was made a count and a senator by Napoleon I, and received many special favors.

Antonio Scarpa was called to Pavia in 1783. The university owes to Scarpa the celebrity of its anatomical and surgical school. Here he made his discoveries on the organ of hearing; he described minutely the olfactory nerves and the anterior nasal nerves; he illustrated the topographical anatomy of the limbs, teaching the rules for the ligatures of the arteries; he studied the diseases of the eyes, demonstrating how the clinical observation must be based on the anatomy; and lastly wrote two works on hernia and on aneurism which have remained classic.

S. A. Tissot taught practice of medicine in 1781. He wrote important works for those times, on nervous diseases, on onanism and sexual diseases, which made his name popular.

G. Peter Frank succeeded Tissot in 1785, and was much honored for his learning.

Joseph Frank took his father's place in 1795. He followed for a time Brown's theories, but soon abandoned them.

V. L. Brera followed. He diffused vaccination, and wrote a grand work on worms and their diseases, which was translated into all the principal languages.

In the year 1797 G. Rasori was called to the chair of clinical medicine. Forgetting that the observation of facts is the only basis of science, he permitted himself to be deluded by the simplicity of philosophical speculations and founded the famous "contra-stimulant" method, which consisted in bleeding and the use of tartar-emetic. His teaching was bitterly fought, so much so that after a year he was obliged to leave the chair.

Vincenzo Malacarne, already famous for his surgical works and for his excellent anatomical observations on the nervous centres of man and animals, was elected professor of surgery and obstetrics in the year 1789. He wrote a much honored treatise on "Exploration as a fundament in the obstetrical art."

Bartolomew Panizza, Scarpa's pupil, was elected professor of anatomy in 1815. He paid much attention to ophthalmology, and published a valuable essay "On the medullary fungus of the eye and on the depression of cataract." He gave an original description of the lymphatics of the genitals, demonstrated with mercuric injections. He also showed the absence of the vessels in the skin, and confuted the pretended Lippi's discovery, who taught that the lymphatics opened in veins. Later, he accurately described the lymphatic system of reptiles, and made known the inter-aortic opening of crocodiles, named by Brücke *Foramen Panizzæ*. In his experimental researches on nerves he discovered the function of the spinal roots, and demonstrated the functions of the glosso-pharyngeal nerve. Worthy of attention are his teratological observations, as well as his researches on the marine lamprey, in which he found the sexual demorphism and many other anatomical facts; also his experimental researches on the optic nerve; and many other studies, as on the gravid uterus. In 1860 he was elected senator; in 1864 he left the chair, and died in 1867. To

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perpetuate the memory of such a worthy teacher a fine statue was erected to him in 1873, and it can be seen under the internal colonnade of the university; but a far more durable monument was built by Panizza himself in his works.

Mauro Rusconi's name will also forever be known for his great discovery, in 1826, of the segmentation of the ovum, and other important studies on embryology.

Frank Flarer taught ophthalmology in Pavia from 1819 to 1859. Hirsch names him as a worthy representative of the Vienna school in Italy.

F. S. Hilderbrand taught clinical med icine from 1817 to 1830, and studied the means to combat the pellagra.

T. Lovati held the chair of obstetrics from 1827 to 1848. He introduced in Italy the artificial premature labor, and was the first one to use auscultation in obstetrics.

Luizi Porta held the chair of surgery for forty years. His reputation as a surgeon and an anatomist was, and is yet to-day, widespread throughout the world. His memory is also perpetuated with a beautiful statue placed under the colonnade. He bequeathed all of his large fortune to the university fund, besides a fine collection of 260 preparations of surgical anatomy, and over 1,400 preparations of surgical pathology. All these are placed in three large rooms under the name of Porta's Museum.

Among the living who have made im portant studies at this university, and have held chairs, adding much glory to this already famous atheneum, the following are worthy of special mention :

Salvator Tommasi, who taught clinical medicine from 1859 to 1864. He held constantly in his lectures that the duty of the physician is to study the sick man as a physiologist studies a sound organism ; that disease is not a new being with different laws governing the organism, but only a deviation in the typical progress of the organic laws. He is at present at Naples, much honored and admired.

Paul Mantegazza taught experimental pathology from 1860 to '69. He did in this institution much of his scientific work on the spermatic fluid, on the genesis of fibrine, on the persistency of vibriones in boiled liquids, on animal inoculations, on the temperature of urines, etc. He has been, and is to-day, a prolific writer. His writings on hygiene, travels, and many physiological and philosophical works, are universally read and admired.

C. Lombraso taught psychiatrics from 1864 to '76. He advocated with energy the necessity of the study of anatomy in mental diseases, and was the founder of criminal anthropology. He is now in Turin.

The name of G. Bizzozero is much esteemed at home as well as abroad. He taught general pathology from 1869 to '72, and during that time he completed a series of studies on the structure of the pineal glands, on the marrow of bones, on the histology of epithelia, etc. He now holds the same chair in Turin, where he continues his observations with much conscien tiousness. His last work on clinical microscopy is generally read, and has been translated in all the European languages.

Who doesn't know or at least has not heard of Arnaldo Cantani? This illustrious clinician commenced his scientific career at this university, and he did much to found and diffuse in Italy the scientific method in the clinique. He is now connected with the University of Naples, where he holds the highest place as a teacher and clinician.

E. Porro taught obstetrics for many years. Here he performed the classic operation of utero-ovarian amputation which bears his name. He has retired to private practice in Milan.

All the clinical teaching at this university is imparted at St. Matthew's Hospital. This hospital was built in the year 1449, hence it has many defects consequent upon the

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manner of building in those old times; but in these later times many additions have been made, and the old part has been remodeled to coincide with all the requirements of the modern progress of hygiene. The hospital is sustained by revenues of trust funds which reach the sum of nearly a million of francs. The hospital has a fair library, due to the generosity of Professor A. Brambilla, who also donated a complete armamentarium of surgical instruments. In these later years the medium mortality has been ten per centum in the department of medicine and six per centum in that of surgery. The diseases which have made the mortality so much in surgery are mostly gangrenous erysipelas, inflammations and vast suppurations.

Recently there has been instituted in this hospital a school for nurses with good effect. The teaching consists in the elements of anatomy, physiology, surgical help, the manner of assisting patients, dietetic régime, some idea of diseases, on hygiene, etc.

The medical clinique has been in charge of Professor F. Orsi, since 1865. The fifth and sixth year students only attend this clinique, which is situated on the ground-floor of the hospital, and is divided into two large rooms, each holding thirty beds.

The surgical clinique was, until last September, in charge of Professor Henry Bottini, who gave up his clinique, having been elected a member of the Italian parliament, a fact much regretted by the profession which loses a most eminent clinician and surgeon. All the operations are performed in the surgical amphitheater of the hospital, which is adorned with inscriptions, two marble busts of Scarpa and Brambilla, and a beautiful collection of instruments; of these are worthy of mention those for operations on the urinary passages, those for the galvano-caustic operations, much improved by Bottini, those for diseases of the osseous system, and a most complete armamentarium for hemostasis. Over two hundred capital operations are here performed every year, such as removal of goitres, sarcomata, lymphomata, amputation of the tongue by a special method, resections, etc. This clinique is also provided with ample laboratories for histological and bacteriological researches.

There are several other cliniques here, but time and space do not permit me to give any detailed account of them. As the reader will see, this university has a splendid history, and its renown will increase in the future. Here, as in other Italian institutions, much scientific work is done, which, if this fact were made known, as is done in other nations, would divert in in this direction not a little of the travel of medical students who go abroad for advanced professional instruction. But the time will come when students and physicians will avail themselves of the fine opportunities offered in this beautiful sunny land, where, besides the excellent clinical instruction, the sojourn will be made far more profitable by the pleasant surroundings, charming climate, arts, music, language, and the courtesy which so much characterizes the Italian nation.

The corner-stone of a new Polyclinic was laid on the 19th of January at Rome. The King performed the act in the presence of the Queen, the Prince-heir, and all the prominent officials of the capital. Professor G. Baccelli, the originator of this new institution, made a brilliant address. Honor is due him for having conceived the idea to harmonize school and recovery, learning and philanthropy; and to place at the disposal of medical science a union of several clinics, to benefit science while benefiting charity. This institution will be erected upon the plans of architect G. Podesti; and the area of ground on which this great work is to be situated is just outside of the celebrated Porta Pia, where, eighteen years ago, the Italian army, after a sharp resistance, made a grand entrance into the new capital. The area is surrounded by boulevards thirty metres wide, and which measure 160,000 square metres.

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The main building, in which are to be located all the offices, store-rooms, warden's residence, etc., is situated in the centre and in front. From this there will extend several galleries by which it will communicate with the other buildings. The main frontage will measure 560 metres long, and 300 metres deep. In all there will be over forty pavilions. A wide underground gallery will be used for the removal of cadavers to the dead-house, and also of all the clothes to the laundry. Above this gallery there will be a portico to communicate with all the infirmaries. The medical and surgical clinical wards, with the annexed hospital, will be situated on the side of the main building. Special pavilions for infectious and contagious diseases, as well as the dead-house and laundry-rooms, will be built in the corner farthest from the centre of the area. These will be reached only by underground galleries, with a view of avoiding infection. The balance of the ground will be changed into a beautiful garden.

It is intended to make it, when erected, the largest and the best equipped institution devoted to medical teaching in Italy. It is to be hoped that it will meet all the requirements of modern sanitary science, and, as the first one of the kind, be an honor to Rome and Italy, and thus be a glorious page added to the history of the Eternal City. A. LAGORIO, M. D.

GENOA, ITALY, February 7, 1888.

ABSTRACTS AND EXTRACTS.

MICHIGAN STATE BOARD OF HEALTH.

The regular quarterly meeting was held in Lansing, January 10, 1888. The members present were Hon. John Avery, M. D., President; Professor Victor C. Vaughan, M D ; Arthur Hazlewood, M.D.; J. H. Kellogg, M. D.; and Henry B. Baker, M. D., Secretary.

MICHIGAN STATE LABORATORY OF HYGIENE.

Professor VICTOR C. VAUGHAN, M. D., made his first Quarterly Report of the Michigan State Laboratory of Hygiene, of which Professor Vaughan is Director. This complete report is to be published in the Annual Report of the State Board of Health for 1887.

Professor Vaughan's report includes three subjects:

(1) The important results of the investigations into the causation of typhoid fever, stating the details of the experiments whereby the "germs"—the bacilli of typhoid fever—were proved to be in the water supposed to have caused the typhoid fever at Iron Mountain, Michigan, in October, 1887; and whereby, through the injection of the "germs," a disease in some respects similar to typhoid fever was produced in an animal, and, through injection of a ptomaine formed by the germs and chemically separated from the germs, an abnormal rise of body-temperature was produced in an animal.

(2) The complete account of the four cases (three fatal) of tyrotoxicon poisoning near Milan, Michigan, in September, 1887, and the experiments indicating that the poison may be generated in soil saturated with decomposing milk.

(3) The investigations which exposed a fraud which was putting into the hands of pharmacists and physicians a drug claimed to be a harmless product of the honey-locust tree, but which was found to be a dangerous mixture of cocaine and atropine.

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The Secretary of the Board was instructed to send circulars and blanks to the health officers of all cities and villages in Michigan urging a sanitary survey, a house-to-house inspection, next spring, and asking the health officers to mention the subject in their annual reports to the common councils or other local boards of health.

DIFFICULTIES IN THE RESTRICTION OF COMMUNICABLE DISEASES.

In efforts for restricting communicable diseases, the Secretary read a letter which

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had been received during the quarter, saying that considerable trouble is experienced in preventing the spread of diphtheria, from the fact that some physicians will not report cases that come under their care, and claim that there is no diphtheria, whilst other physicians pronounce simliar cases to be true diphtheria.

In response to the communication, a letter was sent from the office of the Board, stating that the safest way would be to consider every case of sore throat, in a locality where diphtheria prevailed, as suspected diphtheria, and to distribute pamphlets (issued by the State Board of Health) on the restriction of this disease to all the neighbors of those sick. In that way that class of physicians who do not regard the public health will not be depended upon to control public opinion, but after a time will be controlled by public opinion.

The local board of health in this locality in which diphtheria so prevailed was advised to meet and pass a resolution, which should stand as one of the "regulations" of the board, that in all cases of inflamed throat the local board of health, acting on the advice of the State Board, would require physicians and householders to report said cases to the health officer, in order that precautions might be taken, as in cases known to be diphtheria.

It was pointed out that, while diphtheria is, as a rule, *fatal to children* only, it is *spread* frequently by cases in *adults*, because they are not sufficiently well marked to make ordinary people believe they are diphtheria.

In all cases of sore throat precautions should be taken.

The following resolutions were adopted by the Board at that meeting:

Whereas, it is often difficult to recognize mild cases of diphtheria, or to distinguish such cases from a simple tonsilitis, pharyngitis, or larnyngitis, and

Whereas, such mild cases of diphtheria often communicate a dangerous and fatal form of diphtheria:

Resolved, That it is the duty of physicians and householders in reporting diseases dangerous to the public health, and of local health authorities in their efforts to restrict such diseases, in every case, to give to the public safety the benefit of the doubt, and in localities where diphtheria exists to regard cases of acute sore throat as suspected cases of diphtheria.

Resolved, That suspected cases of dangerous diseases should be reported, and precautionary measures should be taken.

INFLUENCE OF DRESS ON RESPIRATION.

Dr. J. H. KELLOGG presented facts and memoranda of a paper, entitled, "The So-called 'Female Type of Respiration' the Result of Improper Dress, as Shown by the Study of Respiration in Indian and Chinese Women."

This paper embodies the results of the study of respiration in nineteen Chinese women, fifteen Indian women, and more than one hundred civilized women, by the aid of the pneumograph. The results show:

First. That there is but one normal type of respiration in human beings, contrary to the views held by our leading physiologists, who assert that normal respiration in adult women is costal, while in males it is of the abdominal type.

Second. That the so-called "male," or abdominal type of respiration, is the normal type for both men and women when the movements of the chest and abdomen are not restricted by improper dress.

Dr. Kellogg was requested to complete the paper for the annual report of the Board.

THE DRY-CLOSET SYSTEM OF DISPOSAL OF EXCRETA.

The committee appointed for the purpose of investigating the Smead System of Dry Closets as used in connection with public schools, reported that it had visited several school buildings and carefully examined the system of dry closets in use in them. In all but one building the working of the system appeared to be very satisfactory, the outside temperature being such as to insure good draft in any heated building provided with an efficient system of ventilation. In one building the odors present in the base-

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ment were, when it was first entered, exceedingly foul, the odors coming chiefly from the urinal. It was necessary to open the basement windows to clear the room, even in part, of the odors present. The fæcal matter of the vaults was, in two of the buildings visited, nearly dry; in the building referred to above it was in a highly putrescent condition.

The committee also visited a school building in Detroit in which this system had been recently introduced, but had not been long enough in use to enable us to judge of its efficiency. The conclusions reached by the committee were as follows:

1. The dry-closet system, as introduced in connection with the Smead-Rutten system of ventilation, with a sufficiently strong and constant draft, presents features of economy and conveniences which render it worthy of investigation.

2. The apparent success of the system is wholly due to the efficiency of the system of ventilation in connection with which it is introduced.

3. The system presents several features, however, which do not commend it to sanitarians, and which certainly suggest a further study and observation of the system before it can receive scientific indorsement.

a. There is always a possibility, and under some circumstances, as during the prevalence of adverse winds and in hot weather, a probability, of an interference with the ventilating system, by which fæcal odors may be carried, by a back-draft in the foul-air ducts, into the school rooms.

b. The system does not provide a satisfactory method of caring for the boys' urinal.

c. In the light of the most recent researches, the drying of fæcal matters, which is supposed to occur in the dry vault, does not destroy the germs of disease which may be contained in them; and the scattering of these germs, through their discharge into the open air, may be conducive to the wide dispersion of the infectious elements of diphtheria, typhoid fever, and, possibly, other grave maladies. This danger would, of course, be greatly aggravated in times of epidemics of any of these diseases.

4. On the whole we are obliged to express the opinion that the dry-closet system is not in the line of the best sanitary progress.

The committee wished especially to call attention to the fact that their inquiries thus far have been prosecuted at a season of the year when this system would necessarily appear at its best, and when its dangers and disadvantages are least likely to appear; and on this account they desired to withhold their final and complete report upon the dry-closet system until they shall have had opportunity to observe its working during the warm season of the year.

DANGERS IN GASOLINE.

Dr. J. H. KELLOGG, who had been appointed a committee to investigate the dangers in gasoline, made a report, embodying facts which he had collected, and including the views of leading insurance agents, etc., concerning the dangers in the use and storing of gasoline, and giving rules to be observed in handling this substance, declared to be "more dangerous than gunpowder." The report is to be published in the annual report of the State Board of Health for 1887.

CONTAGIOUS DISEASES.

Compared with the preceding quarter (July, August, and September), reports received from all sources show the number of places at which diphtheria was reported to have increased by an average of eight places per month, scarlet fever to have increased by an average of nine places per month, typhoid fever to have decreased by an average of two places per month, and measles to have increased by an average of one place per month. One case of smallpox was reported in each quarter.

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METEOROLOGY, AND SICKNESS FROM ALL CAUSES, COMPARED WITH THE PRECEDING QUARTER.

A comparison of the meterological conditions of the fourth quarter of 1887, with the meteorological conditions of the third quarter, shows the temperature to have been much lower, the absolute humidity and the day ozone less, the relative humidity more and the night ozone slightly more in the fourth quarter of 1887.

Compared with the preceding quarter (July, August, and September), the reports received from regular observers show a marked increase of pneumonia, bronchitis, influenza, tonsilitis, scarlet fever, diphtheria, rheumatism, and consumption of the lungs, and a marked decrease of diarrhœa, cholera morbus, dysentery, cholera infantum, intermittent fever, and whooping-cough in the fourth quarter of 1887.

THE MEDICAL CORPS OF THE UNITED STATES NAVY.

In the *Reference Handbook of the Medical Sciences*, Medical-Director A. L. Gihon, of the United States Navy, says:

Admission into the medical corps of the navy can only be obtained through a professional examination before the naval medical board, composed of officers of the higher grades. From the beginning this board has assumed to be the sole judge of the qualifications of candidates, the mere possession of the diploma of a medical school not being recognized as even presumptive evidence of professional abilities and acquirements. Inquiry is first made as to whether the candidate has received a liberal education, which is properly considered an indispensable pre-requisite to an intelligent comprehension of the science of medicine. An autobiographical sketch, an essay on some assigned professional topic, and written answers to a series of comprehensive questions in the various departments of medicine, are intended as evidences of such preliminary proficiency, the orthography and punctuation, grammatical construction, form, and manner of expression being as carefully scrutinized as accuracy of statement. An oral examination follows by the several members of the board, in the presence of all, upon every branch of medicine and upon such collateral studies as the candidate may have pursued, with the object, not merely of ascertaining the amount of detailed information he may have acquired by rote, but rather the extent of his intelligent understanding of the fundamental facts and principles which constitute the science of medicine. Finally, extemporaneous chemical and pharmaceutic exercises, the clinical diagnosis and treatment of actual patients in hospital, the adjustment of surgical apparatus and appliances, and the performance of operations upon the cadaver, exhibit his acquaintance with the practical requirements of the healing art, and his fitness to assume its responsibilities under the emergencies which sometimes place the issue of life or death upon his unaided knowledge and skill.

Manifestly, such a course of examination, written, oral, and practical, adequately determines whether the candidate has received a proper education in medicine, and the examination is only such as should be exacted of every aspirant for a doctor's degree, and such as can be hoped for only when boards of examiners shall be instituted entirely independent of teaching faculties. A second examination, after a lapse of three (formerly five) years, is required for passing out of the grade of assistant surgeon preliminary to promotion to that of surgeon. This examination presupposes a wider practical acquaintance with the various branches of medicine and a familiarity with its current literature. Similarly, in civil life, it would be well if the graduate should first receive only a baccalaureate degree (M. B.), and as an incentive to application and study have the M. D. before him as the reward of a second examination five years later. But the interest of the bureau of medicine and

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surgery in the young naval medical officer does not cease with this final examination. Opportunities for self-improvement are liberally provided, and individual research and investigation are encouraged by the supply of apparatus, instruments, or other facilities required, and by the publication of essays voluntarily contributed, as well as by the requirement of annual statistical, medical, and sanitary reports from every officer in charge of the medical department of a vessel or station, embracing the medical topography, climatology, and hygiene of every station or place visited, with all attainable information respecting statistics of disease and its causes, establishments for the care of the sick, charitable institutions, medical colleges, and other matters of professional interest. Again, in civil life, this might be paralleled by the more general employment of young men as salaried attachés of hospitals, dispensaries, asylums, infirmaries, cliniques, and other eleemosynary medical institutions, where, under the supervision of older men, that experience might be acquired which alone justifies any one in accepting the responsibility of human lives, and where similar provisions for professional research might be afforded, which are not possible in a young graduate's meagrely-appointed office.

The medical officer of the navy having passed the rigorous examination for admission, is made to understand at the outset of his career that his first duty, as a physician, is to protect the community in which he is established from the ravages of disease; and herein the medical corps of the navy merely exemplifies the real mission of the medical man in every walk in life—to place those who are under his care in the best possible sanitary condition, to jealously guard against the operation of preventable causes of disease, to antagonize the morbific agencies that elude their vigilance, or find access by inscrutable ways, and thus to reduce to a minimum the necessity for therapeutic measures; and finally to use natural agencies for purposes of cure wherever these can replace pharmaceutic administration.

The sanitary supervision of a community like the navy is much simplified by the preliminary physical examination of all the men and boys—adults and adolescents—who enter it, and by their compulsory subjection to regulated habits in food, drink, personal cleanliness, etc. The immature and the very old, the weak and decrepit, women with their special train of ailments, and those predisposed to disease—classes which in civil life outnumber all the rest—are excluded from enlistment. Still, it is within the province, as it is the duty, of the civil practitioner, to inculcate, far more strongly than he does now, hygienic principles, and to enforce restraints, as in preventing the marriage of individuals with transmissible taints.

QUARANTINE DOES NOT DEAL WITH THE MOST DANGEROUS DISEASES.

In a report made to the Michigan State Board of Health, the Secretary, Dr. Henry B. Baker says: Relative to the persons who brought scarlet fever to Sutton's Bay, Michigan, and who came on the S. S. Ohio, reaching New York September 30, 1887, Dr. Wm. M. Smith, health officer of the port of New York, says: "Developed cases of diphtheria and scarlatina arriving on vessels at this port are removed to Ward's Island. It is impossible under the law for the health officer or the authorities at Castle Garden to quarantine persons who have been exposed to the contagion of those diseases; consequently the sick on board vessels during the voyage, doubtless often infect the relatives or those with whom they come in contact * * * and who carry the latent contagion to interior communities. I would be glad if the law allowed those exposed to the contagion of these diseases to be held for observation as is the case when persons are

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exposed to the contagion of small-pox." The instance mentioned above is an illustration of what Dr. Smith says—the child having been exposed during the voyage and taken sick with scarlet fever the day after arrival at New York; so the infected child went on its way to spread scarlet fever. In Michigan, at least ten times as many deaths occur from either scarlet-fever or diphtheria as from small-pox. Is it not time that the whole subject of quarantine was investigated by the States and by the United States Government, with a view to protecting the people of this country from the introduction of the really dangerous diseases?

FOGS AND THEIR EFFECTS.

It is but a small consolation to the millions of people whose respiratory function is distressed, and whose general health and comfort are interfered with by the fogs which have lately prevailed, to know that they are attributable to this or that meteorological condition of things. A marked difference is found between fogs over the sea or country and those observed in large towns, the former being, as a rule, whiter, more moist, and distinctly less irritating to the mucous membranes than the latter. This is doubtless to be explained by the fact that in towns the particles of water of which the fog is composed take up the sulphurous acid, ammoniacal vapors and other atmospheric impurities poured out by the countless chimneys of the metropolis until they give rise to almost unbearable irritation when brought into contact with the mucous membranes of the eyes, nose, and lungs. The "drier" the fog the more marked is this property, and the effects on the mortality tables is correspondingly more pronounced. The fog which enveloped London all last week in its sable mantle was remarkably moist, and therefore less irritating. When of some duration, the evil effects of the peculiar power possessed by masses of moisture to check the dissemination of vapors become very evident. The denizens of cities experience, in a more or less marked manner, all the symptoms of carbonic acid poisoning superadded to those due to a diminution in the supply of oxygen. In London, no sooner does the fog swoop down upon us than we begin to choke and experience the various unpleasantnesses incidental to partial asphyxia. The country fog is positively refreshing after a few hours in town, both morally and physically. Unfortunately, in addition to the swollen death-rates from disease we have to lament an appalling number of fatalities due directly to the interference of fog with vision and sound.—*Medical Press and Circular.*

AN EXTRAORDINARY INJURY.

The infliction of fatal injury to the brain by the thrusting of pointed objects beneath or through the upper eyelid, through the orbital plate into the brain, has occurred a number of times. Baby-farmers have been known to procure the death of their charges by pushing needles in, and not long since an irascible "fare" thrust his stick some four inches into the brain of a cab driver in the same way. The effect of such an injury is generally very prompt, and within an hour or two—even if not at once—serious symptoms manifest themselves. A curious exception to this rule was the subject of an inquiry last week at the London Hospital, the victim being a commercial traveler 32 years of age. Until the last few weeks the deceased is stated to have been in good health, and to have kept a set of books most accurately. He was admitted into the hospital complaining of a pain in his head, and feeling drowsy. On the 10th inst., symptoms of apoplexy (?) appeared, and he died a few hours later. On making a post-mortem examination of the brain, an abscess the size of a turkey's egg was discovered at the base, evidently not of recent formation, inside which was a penholder and nib, measuring altogether some three inches in

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length. This foreign body must have been in its position for some considerable time, it being imbedded in bone. No trace of injury to the corresponding eye or nostril could be detected. The widow of the deceased had never heard him allude to any injury of the kind, and it is quite unknown how and when it was inflicted. The pen and nib were of the ordinary school pattern, and there is nothing to show that the injury was not inflicted years ago when the deceased was at school. Altogether, it is a very remarkable case and demonstrates the extreme tolerance of the brain to a very serious injury, and to the presence of a foreign body under certain circumstances. It is fortunate, in one sense, that the deceased died in a hospital; in private practice his death would have been certified as due to apoplexy, or, in case of an inquest, to "visitation of God."—*Medical Press and Circular.*

GUY'S HOSPITAL REPORTS.

Volume XLIV, 1887—edited by N. Davies-Colley and W. H. White—contains, as usual, many valuable papers by different writers. Of some of which *abstracts* have been prepared for the *Journal and Examiner*. They are of sufficient general interest to the profession to merit special mention.

W. Arbuthnot Lane, M. S., in a long article on "The Causation, Pathology, and Physiology of several of the Deformities which Develop during Young Life," attempts to consider more particularly the causation and pathology of the deformities, because he believes the accepted teaching largely incorrect in regard to these points. He says that "*the surgical pathologist has but too frequently mistaken the cause for the effect*," and "*therefore it is of much importance, as regards treatment, that we should obtain as thorough and as complete a knowledge as possible of the factors which determine the development and progress of deformities, and of the influence exerted by each.*"

Among the supposed factors in the causation of knock-knee which the author considers incorrect, are—

1. Yielding of the internal lateral ligament.

2. Union at an early date of the outer portion of the lower epiphysis with the femur.

3. Contraction of the biceps tendon.

These the author thinks are effects, not causes, and that the real cause of the deformity is "the habitual or very frequent assumption of the position of rest of that joint."

The discussion of flat-foot occupies twenty-six pages. The author considers rotation of the os calcis inwards the chief determining factor in this deformity. The first factor which is solely and primarily responsible for the condition is a general want of tone and vigor. The discussion of this deformity is extremely technical, and the suggestions for treatment are along the line of the anatomical conditions present, and so full of detail that a condensation cannot do them justice.

Twenty-five pages are given to deformities of the spine. Attention is called to the fact that a direct backward displacement of the shoulders will effect but little change in the deformed column in cases of excurvation, and yet, this displacement, and one also slightly downward, are the only ones exerted by the braces usually constructed for these cases. The effect desired is to displace the weight of the head and shoulders as far backwards as possible. "This can be done by simply approximating the shoulders by means of powerful elastic bands attached to shields encircling them."

"In the case of the young female in whom we suspect the presence of sacral deformity we may develop a tendency to its removal by powerfully over-extending the hip and sacro-iliac joints by placing a large sandbag beneath the pelvis when the patient is occupying the supine position." In a case of typical dorsal excurvation developed during growing life the author

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discovered the following described anatomical peculiarity in the dissecting room, "developed in the lower part of the ligamentum nuchæ, and intimately connected by ligament to the prominent spinous process of the seventh cervical vertebra, a conical piece of bone about an inch and a quarter long. This peculiar pathological condition lends additional weight to the claim that in these cases there is a special strain upon, and consequent marked hypertrophy of, the ligamentum nuchæ."

The opening remarks in what he has to say about lateral curvature of the spine, represent so clearly the author's theory of the formation of all of these deformities acquired during young life that they may well be given here in full.

"As we analyze the changes that take place in this deformity, I think we shall arrive at the same conclusion as we did when studying the several previous deformities, namely, that there exists a natural tendency to the formation of each, since it is but the *fixation and subsequent exaggeration of a movement which is a normal one when the subject occupies the position of rest.*

"A feeble subject, such as I have already described, assumes habitually such attitudes of rest, and it is the very frequent and prolonged retention by such a person of any portion of the skeleton in its normal position of rest (that is, one which demands the smallest possible expenditure of muscular energy) that determines the permanent retention of what is normally a physiological transitory movement, and later, its progressive exaggeration. I believe that I shall be able to show that the temporary assumption of the double lateral curve by the spinal column is a normal physiological attitude, and a position of rest; that, like all positions of rest, it is most marked in the feeble subject, and that it only becomes a deformity when it remains as a permanent curve, and ceases to be recoverable in exactly the same way that a flexion of the dorsal spine is also an attitude of rest, and only becomes a deformity when it does not disappear after rest but remains permanent as a dorsal excurvation. I would point out here that the position of simple flexion of the dorsal spine, with the associated changes in the curvation of the rest of the column, is not usually assumed as a posture of rest till a period of growing life later than that in which lateral curvature develops. I will divide my case up into two headings. I wish to show—

"Firstly, that the double lateral curve is a position of rest, and consequently one which is assumed habitually by feeble children for long periods of time; and

"Secondly, that the so-called rotation of the vertebræ around a vertical axis is part and parcel of this normal and physiological process of lateral flexion; that there is nothing mysterious or obscure in the mechanism of its causation; that it is not a change which develops subsequently to that of lateral flexion, and that it is not due to any change in the form of the articular processes, or to any abnormal development of the component parts of the vertebræ on either side, but that the alteration in form which the vertebræ undergo is secondary to, and consequent upon, their movements upon one another."

The article also includes discussions of Acquired Deformities of the Toes, and Rickety Deformities. The entire article is worthy of the careful attention of all interested in orthopœdics. It is markedly original in many ways, and evidently based both upon large practical clinical experience, and unusually ample observation in the dissecting-room of the classes of acquired deformities discussed.

G. Newton Pitt, M. D., reports a case of Friedreich's Disease, of which we give here a very much condensed résumé. *Family history:* Father died of Bright's disease after a three month's illness. Mother was affected with chorea at ten years of age, but completely recovered. The patient is one of seven children. Three brothers are affected as the patient is, one less, and two

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more so. One sister is also worse than the patient.

In all of the cases in this family, the ataxic symptoms began at the age of fourteen to fifteen years, being worse in the legs than in the arms, and steadily increased. One of the brothers has two healthy children, the eldest of whom is ten years of age. In none of these cases have shooting pains, double vision, numbness, nor pricking sensations been present. Two brothers and his sister have suffered with weakness of the spine, and two brothers have some curvature. They are all rather pale.

The patient was first admitted at *Guy's*, May 14, 1887, and was then twenty-one years old. General health good. Seven years ago he became unsteady in his gait, and in consequence of uncontrollable movements and twitchings of his limbs, became unable to take part in games. No evidence of sudden fright or intestinal disturbance. *Present condition:* A well-nourished man, five feet ten inches high, red hair, weight 131 pounds. Tongue protruded naturally, but retracted with a jerk. Heart, lungs, liver, and spleen normal. Choreic movements are most marked when patient is in bed, and consist of a sudden jerking up of the knees, side to side movements of the feet, with pronation and supination of the forearms. When sitting up there is an occasional twist of the trunk, and, at times, twitching movements of the mouth and of the head occur. He has difficulty in rising from or sitting down upon a chair; sways to and fro when standing up, and his gait is somewhat that of a drunken man. When his eyes are closed, he is unable to touch the tip of his tongue readily. All of these symptoms are more marked when he is watched. There is no loss of muscular power. The movements are not unilateral, and cease during sleep. Has no shooting or girdle pains, no numbness in the feet. He can not stand with eyes closed and toes together. Touch and temperature sense normal. Patient remained in the hospital until December 13, 1877, and took cod-liver oil, arsenic, and at last phosphorus. Was re-admitted February 22, 1878. Up to January 15, was able to act as cashier, walking to and from work. In January, took cold, had severe cough with free expectoration. About this time, the ataxic symptoms became so bad that he could not feed himself, and he could not stand alone, and he had "flashing" pains through knees, ankles, and feet. These pains are not now present; he has lost flesh rapidly, and eyesight is dim, but he can read near and distant print well. Speech is jerky, articulation indistinct. Tongue, when protruded, is unsteady. On trying to grasp anything, the movements are unsteady, but after three attempts, he wrote his name fairly well. Has full strength in legs, but can not stand alone. In walking, the heels strike the floor first. Plantar reflexes present, sensation normal in feet and legs. Patient went home March 18, 1878, able to walk when fairly started. Re-admitted July 13, 1881. Since he has been out, has not been able to work or walk about much. A fortnight ago, he had an attack of diarrhœa, and his ataxic symptoms became much worse. *Condition on admission:* Even with his eyes open, he is unable to stand alone. When supported, he walks a few steps, shooting his legs out sideways, and bringing them down forcibly. With eyes shut, he can not touch his nose. No wasting of limbs, or loss of power, no knee-top or ankle clonus. Tongue protruded straight and steadily. Voice normal, but speech resembles that of first stage of intoxication. Sensation perfect, no numbness. All abnormal symptoms worse when he is out of sorts or tired, special organs normal.

The patient was discharged and re-admitted several times, the ataxic symptoms described gradually increasing, and he finally died at home, rather suddenly, March 21, 1885. Excepting the spinal cord the only changes of interest found at the section were a widely distributed obliter-

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ative endarteritis of the smaller arteries, with extensive chronic endo-myocarditis. A very elaborate description is given of the cord, accompanied with a lithographic plate, and followed by a condensed summary which we give in full.

1. The spinal cord is extremely small.

2. Extreme sclerosis, amounting almost to destruction of the columns of Goll, traceable from the lumbar enlargement to the floor of the fourth ventricle, where it terminates.

3. Severe sclerosis of the posterior part of Burdach's columns, in which, however, single healthy fibres are scattered; these are more numerous in the upper than in the lower part of the cord, where they are very exceptional. Slight degeneration is visible in the fasciculus cuneatus and in a bundle of fibres of the funiculus rotundus.

4. A narrow tip in Burdach's columns bounding the posterior horn and root, more especially along the anterior half, has escaped degeneration. This strip is more defined in the upper than in the lower part of the cord.

5. A diffuse sclerosis (and much less extensive than in the posterior columns) of the crossed pyramidal tracts, not varying much in intensity, but probably most marked in the dorsal region. This is not traceable higher than the commencement of the crossing of the pyramidal tracts.

6. A diffuse sclerosis of the ascending cerebellar tracts as high as the decussation of the pyramids, and a very slight and irregular sclerosis affecting scattered fibres anterior to these tracts, chiefly along the periphery and in a few sections extending along the anterior fissure.

7. Degeneration of Clarke's columns in some sections.

8. Degeneration of some of the fibres of the posterior nerve-roots, and in some sections of the posterior horns.

9. Friability and shrinkage of the affected areas.

The most noticeable feature in the naked-eye appearance of the cord was its great diminution in size in transverse section, which was as well marked in the cervical and lumbar enlargements as in the dorsal region, the posterior portions being in proportion smaller than the anterior.

There were well-marked symmetrical areas of sclerosis affecting the posterior columns, and, to a less extent, the posterior part of the lateral columns, varying in amount in different parts of the cord. The cord, however, seemed to be much smaller than could be accounted for merely by the sclerosis, and the possibility of the cord being a very small and imperfectly-developed one may be the explanation of its early degeneration.

The parts of the report which are partly reproduced here are both preceded and followed by very interesting comments upon the case reported and also of the cases of this disease which have been reported by other observers.

OBSERVATIONS ON PROGNOSIS.

P. H. Pye-Smith, M. D., in "Observations on Prognosis," says: Of the several departments which make up the art of medicine—observation and detection, foresight, prevention, and remedy—one of the most ancient is the art of prognosis, the forecasting of future events. In the aphorisms of Hippocrates there is more of prognosis than of treatment, and prognosis has a larger share of attention than in any modern work on medicine.

Prognosis, foreknowledge of the future course and event of a disease, has for its objects either to obviate and prevent, or at worst, mitigate, an untoward event, or, on the other hand, to predict a favorable result, and thus to spare a patient a needless attempt at cure (or, as we now more modestly call it, treatment) of his malady, and to furnish him with the most pleasant and not least effectual of remedies—good hope.

Prognosis is based upon diagnosis or thorough knowledge of the disease or

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injury in question—of its nature and origin, of the anatomical structures which it changes, of the physiological functions it disturbs, and of the chemistry it perverts. It proceeds upon wide and accurate observation of the course of similar diseases or injuries. It is completed by critical comparison of the natural progress and event of the morbid process with two modifying factors—the state of the individual and the effect of treatment.

We now know the natural course of almost every malady. We know, for example, that stone in the bladder will sooner or later kill; that a strangulated hernia will do so more quickly, though not more certainly; that cataract will not disappear by a *vis medicatrix naturæ* any more than will an ovarian tumor; for before modern treatment made these diseases curable, authentic histories of their results were recorded. We know the average tendency of cholera and enteric fever, because these maladies have been often ill-treated, often un-treated, and are still variously treated. And, thanks to the Anti-Vaccination League, the Contagion Defence Association, the Anti-Mercurialists, and the Teetotalers, we know the natural course and the natural fatality of small-pox, of syphilis, of fevers, and of pneumonia. Thus we can estimate the value of a given plan of treatment by comparing its results, not only with those of other treatment, but also with those of no treatment at all. Happily we are able in many cases to change the natural prognosis entirely, or partially, for the better, if we can insure the intervention of rational therapeutics. With this we are not here concerned. Our inquiry relates to the prognosis of diseases apart from treatment, and especially to the modifications which the general forecast should undergo by consideration of the age, previous illness, and what used to be vaguely called the "constitution" and the "diathesis" of the individual patient.

By the "constitution" or *habitus* of the patient, I mean nothing but what can be stated in exact terms—his birth-place, parentage and race, his height and weight, girth and form of chest, the quantity and quality of his urine, the state of his heart and pulse, of his lungs and bowels, his habits of eating and drinking, his clothing, and his dwelling.

By "diathesis," disposition, proclivity, or tendency—I mean the tendency of intemperance in liquor to produce delirium tremens and cirrhosis, the disposition of rheumatic fever and of erysipelas to return, and of enteric fever to relapse, the proclivity of the children of gouty or phthisical parents to become gouty or consumptive themselves.

Of the two elements of prognosis—knowledge of the habitus, tendency, or natural course of the disease, and knowledge of the circumstances, history, and physiological state of the patient—the former is the fundamental; sure prognosis depends on accurate diagnosis. And it is possible in many instances to form a good forecast without either sight or hearing of the patient. The malignancy of hydrophobia, of carcinoma, of confluent small-pox, the fatal effects of perforation of the bowel, of extensive burns, and of intra-cranial tumors, admit of no hope, however doubtful, from individual circumstances; even if in some exceptional case, or from some heroic remedy, recovery ensues, it is independent of them.

But this is not true of most diseases and injuries. For example, the prognosis of diabetes, of pneumonia, typhus, compound fractures, lithotomy, is greatly determined by the individual case; so that we cannot gauge the risk of typhus, or diabetes, or lithotomy till we know the patient's age, nor judge of the effects of any operation till we have tested his urine, nor forecast the issue of an acute inflammation till we learn whether he is temperate in the use of liquor. So important is the personal element in prognosis that we may sometimes make more than a shrewd guess as to the event of a disease by observing the

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conditions of the patient, even when we are unable to make a satisfactory diagnosis. Hippocratic prognosis was almost entirely of this kind. In the absence of systemic post-mortem examinations, diagnosis, as we now use the term, was impossible. Yet there were certain signs which were recognized as favorable or the reverse. Subsultus tendinum, singultus, convulsions during a fever, were early recognized as being of ill omen. Sleep, returning appetite, a free discharge of urine, were observed to be usually precursors of recovery. Modern science has added little to this kind of prognosis, the power of prediction of an immediate event. Again and again we may see patients suffering from mortal diseases, from internal cancer, advanced phthisis, or cardiac lesions, rally after lying at the point of death, and again and again deceive our expectations. Cases which, it seemed, must end within an hour have lasted for days and weeks, while again and again death comes on suddenly in the midst of apparent improvement, and cases which seemed likely to last for weeks have been cut short in an hour.

The wisest and most experienced are most unwilling to hazard predictions as to time. On this branch of prognosis I have nothing to add. We are dealing in this paper, not with the immediate prospect or the probable duration, but with the ultimate result of diseases.

PROGNOSTIC APHORISMS.

Epidemic diseases are most fatal when first introduced.

Acute diseases following upon chronic are the most dangerous.

A degree of pyrexia, which is of slight importance in a child, is grave in an adult, and imminently perilous in an old man.

Typhus fever is most dangerous to persons who have passed their sixtieth or fiftieth year, less so to infants and those between thirty and fifty-five, and least dangerous to children above five and to young adults.

Small-pox in these particulars closely resembles typhus.

Whooping-cough is dangerous during infancy, and benign after five years of age.

Scarlet fever seldom takes on a malignant form when it attacks adults.

Acute lobar pneumonia has usually a favorable issue in youth and is usually fatal in advanced years.

In young adults pneumonia is rarely fatal unless the patient has disease of the kidneys or of the heart, or is of intemperate habits.

Pneumonia is also a dangerons complication of fevers or acute rheumatism.

Acute lobar pneumonia, when not fatal, leaves the lung uninjuied after recovery and the patient in good health. It is seldom or never followed by phthisis, even when it attacks the apex.

Primary acute pleurisy is not fatal, unless it is accompanied by pericarditis.

Pleurisy, if under treatment it ends in death, is secondary to tubercle or to cancer or to disease of the kidneys.

Œdema of the larynx is very seldom dangerous, œdema of the lungs is usually so.

Acute bronchitis is a frequent cause of death in young children and in old people.

Fatal bronchitis, in persons between ten and sixty years of age, is either capillary or secondary to tubercle.

Phthisis is most pernicious when it is hereditary.

Consumptive patients who lose flesh and color and appetite, with but little signs of disease in the lungs, are in a worse case than those who have marked local symptoms, but whose appetite and nutrition are good.

Hæmoptysis, even when copious, is not always of ill omen.

It is rare for hæmorrhage from either the lungs or the stomach to be immediately fatal, except it proceed from an aneurysm.

Chronic valvular disease of the heart, when it complicates phthisis, does not aggravate the latter, rather it checks its progress.

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Sudden death is more frequent from aortic than from mitral lesions, in regurgitant than in obstructive disease of the aortic valves, and in stenosis than in dilatation of the mitral orifice.

Apoplexy, when ingravescent, is commonly fatal.

In apoplectic attacks, the ultimate prognosis depends chiefly upon the degree and continuance of unconsciousness, the immediate prognosis upon the degree in which respiration is affected.

Chronic diseases of the spinal cord are more likely to end favorably in women than in men.

Chorea is only fatal when the patient cannot sleep.

Malignant tumors are more rapidly fatal in the young than in the old. Cancers in the aged are sometimes exceedingly slow in their progress, and may even in rare cases atrophy.

Stone in the kidney may frequently be cured without operation. The opposite is true of stone in the bladder.

Diabetes is rapidly fatal when it occurs in young men, more curable in middle life, and of little danger in later years.

Diarrhœa is dangerous only in infants and in persons above 60 years of age.

CASES OF HÆMORRHAGE.

In cases of hæmorrhage occurring during treatment by salicylate of soda, Lauriston E. Shaw, M. D., says: The discussion on the treatment of acute rheumatism by salicylic acid and its salts, which was opened by the late Dr. Hilton Fagge at the Medical Society in 1881, gave rise to an almost unanimous expression of opinion in its favor; nor has the mass of experience which has since been accumulating by the extensive use of these drugs in any way tended to lessen their popularity.

The theories as to the manner in which the salicylic compounds attack the rheumatic poison are likely to be varied and uncertain whilst the nature of the poison remains unknown, and with the extended experience of the last five years there is still room for doubt as to the actual effect of this drug upon the heart complications of acute rheumatism.

The difficulty in determining this latter point depends upon the variations in the frequency of cardiac affections in the different batches of cases under precisely similar conditions as regards treatment, the variation in such cases being probably partly due to the climatic, social, and hygienic surroundings of the patient. Moreover, the difficulty is added to by the impossibility of properly comparing cases under physicians whose interpretation of slight alteration of cardiac sounds may be so different. Most of us are therefore content to accept the *a priori* conclusion that, as the salicylate lessens the fever and shortens the duration of the disease, it probably diminishes the chance of endocarditis and pericarditis arising.

The toxic effects of these remedies have always been regarded as inconvenient, and by some as an actual bar to their employment. Their most strenuous opponent, Dr. Greenhow, objected to them on account of the serious cardiac depression which he had so often observed. His objections were read before the Clinical Society in 1880, but were treated lightly by most of the physicians who took part in the discussion before alluded to. Among the common toxic symptoms observed have been headache, deafness, tinnitus, vomiting, epistaxis, rashes, and various defects of the heart's action, such as slowness, intermittence, and weakness; and among the rarer, albuminuria, hæmaturia, and temporary amblyopia without retinal change.

In 1881, and since, there have occurred at Guy's Hospital three cases in which hæmorrhage took place (in one case into the retina and in the other two into the urinary tract) during the administration of salicylate of soda, and probably as a direct result of the drug.

He says: By the kindness of Dr.

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Pavy, under whose care the cases were treated, I am permitted to put them on record. He then gives the histories of three cases, of which only a summary of each one is here given.

CASE 1. Acute rheumatism; mitral regurgitation; salicylate delirium; epistaxis; retinal hæmorrhage; blindness.

CASE 2. Acute rheumatism; third attack; salicylate treatment; severe delirium; hæmaturia; ecchymosis of pelvis of kidneys and bladder; death.

CASE 3. Enteric fever; administration of salicylate of soda; delirium; hæmaturia; ecchymosis of pelvis of kidneys and bladder; death.

* * * * *

That hæmorrhage in the way of epistaxis is a frequent result of salicylate poisoning there is abundant evidence to prove. In nearly all the abstracts of cases of acute rheumatism treated in this way that have been brought before the societies, this symptom is mentioned as occurring with more or less frequency. How this result is produced is not quite evident, although it is worthy of remark that it occurred in seven of Dr. Greenhow's fifty cases, or in 14 per cent., whereas of the 174 cases at Guy's to which I am about to refer it only occurred in eleven, or about 6.3 per cent. When it is borne in mind that in the former cases "more or less weakening of the pulse, requiring the free administration of stimulants, occurred in nearly every case," and that in the latter this symptom was comparatively rare and was hardly ever considered grave enough to necessitate alcohol, it would appear that the epistaxis, and therefore the other hæmorrhages are directly connected with the depressing effect of the drug on the circulation. Granting that the salicylate compounds given in large enough doses will produce hæmorrhage, it still remains to be considered whether in the above cases the drug was responsible for the accident.

In Case 1, in which the hæmorrhage was into the retina, although I have been unable to find a similar case recorded, there seems little reason to doubt the casual relation of the drug to the hæmorrhage. The furious delirium and bounding pulse, interrupted and temporarily relieved by a severe epistaxis, which recurred, finally passed off and left the boy partially blind, with a well-marked blood-clot covering a portion of his retina, left no doubt in the minds of those who watched the case that the drug was the cause of the accident.

In the second and third cases, in which the hæmorrhage was into the pelvis of the kidney and the bladder, the similarity of the lesions is very striking, and in making the post-mortem on the second case I was at once reminded of the former, which I had seen Dr. Goodhart examine four years before.

Of the few reports of cases dying certainly or doubtfully from the results of salicylate poisoning that I have been able to consult, no mention of such lesion is made. On the other hand, transient hæmaturia has been recorded. Mr. Mllican, at the Medical Society, in 1882, mentioned a case in which purpura and hæmaturia seemed to have resulted from medicinal doses of salicylate of soda. But in this case the patient had previously suffered from "hæmoptysis as vicarious menstruation," which throws some slight doubt on its true importance.

Among the 174 cases before mentioned, besides Case 2, which is included among them, there is another case in which hæmaturia was present for some time, and in which there also occurred epistaxis.

In Case 2 there can be no doubt that the patient suffered severely from the toxic effects of the drug, as shown by the deafness, headache, "peculiar noises" in the ears, and delirium. It is not possible to accurately estimate the quantity of medicine she took, as it was given rather irregularly and now and then stopped on account of the delirium, but it is probable that she took not less than 240 grains of the soda salt and 400 grains of salicine during the

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four days she was under treatment. The hæmaturia appeared when she had taken at least three-quarters of the whole amount and at a time when the other poisoning symptoms were most marked. Whether the rheumatic or the salicylic poisons were the cause of death—and there are grounds for the former hypothesis in the severity of the attack and the fact that rheumatism does, though rarely, kill without hyperpyrexia, and without visible pathological lesion—there can be little doubt that it was the latter which caused the lesions in the kidney and bladder.

Case 3, taken by itself, affords much weaker evidence of the relation of the drug to the symptom, but taken in connection with the second it both gives and receives additional weight. Its weakness is twofold—firstly, in that the symptoms of poisoning, headache, vomiting, and delirium, which are mentioned in the report, were already present on admission as a result of the typhoid from which she was suffering; secondly, in that hæmaturia is by no means uncommon in typhoid fever.

With reference to the first point it should be noticed that the salicylate was early changed to a salicine, a pretty certain indication that the physician or house physician who ordered the change considered that the patient was suffering from salicylism. The patient, moreover, received fairly large quantities of the drugs, *i. e.*, at least 60 grains of the soda salt and 480 grains of salicine in five consecutive days.

With reference to the second point, in nearly all cases in which typhoid proves fatal when complicated with hæmaturia it is found that the hæmorrhage is due to a general nephritis, and not to the condition of ecchymosis which bears so marked a resemblance to Case 2. There is little doubt that the patient succumbed to the typhoid fever, and as to the extravasations of blood one cannot perhaps say more than that they probably resulted from salicine.

Those physicians who are inclined to look upon the toxic effects of salicine as mere inconveniences, which are not to be considered beside the great advantages obtained in combating the rheumatic poison, would not look with indifference upon such accidents as are above described. But they are very rare and should no more deprive us of the use of this powerful weapon than do the accidents that happen in the administration of anæsthetics. They should perhaps suggest caution in pushing the drug beyond its physiological extent, of which we get early warning in the deafness and headache which occur.

It has been suggested that the poisonous symptoms are due to some bye-products in the synthetic preparation of salicylate of soda, and that they therefore would not occur during the administration of natural salicine or salicylic acid. But as the soda salt is more active in producing toxic symptoms, so is it more powerful in relieving the rheumatic pains and reducing the temperature, and at Guy's, at least, the soda salt is almost exclusively used, except in cases in which there seems to be some undue sensitiveness to the drug, when salicine is substituted.

It does not, therefore, seem likely at present that the first place will be given to the natural drug, nor, as I shall presently show, did improved methods of manufacture of the synthetic drug, if such improvements there have been, make it less active in producing the more common symptoms in 1886 than it was in 1881.

In looking through the cases of acute rheumatism occurring at Guy's in the years 1881 to 1886, inclusive, for evidence of similar accidents to those which form the subject of this paper, I have tabulated, for the sake of comparison, the results in the way of toxic symptoms in the cases in the first and last years. Every case of acute rheumatism of which the report is sufficiently full to estimate the dose of medicine is included. In so many cases both salicylate of soda and salicine were given, and in so few was salicine only given, that no attempt has been made to separate the results of

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the two drugs. All cases in which no mention of any toxic symptoms is made have been considered as not presenting them, although the fact that in many such cases salicine was early substituted for the soda salt suggests that such symptoms were present but not noticed by the clerk; but the unavoidable error due to this want of observation is likely to have been as great in one year as the other.

In both years the soda salt was much the greater favorite, there being only five or six cases in each year in which salicine only was given throughout the treatment. The dose has not practically changed, the commonest dose to begin with being in both years twenty grains every three hours. The soda salt used in both years was, as it has always been at Guy's, that artificially prepared by a patent process in Germany and received at the hospital in the original jars.

In 1881 there were 102 available cases, and in 1886 seventy-two.

The following table shows the relative frequency of the common toxic effects.

	1886.		1881.
	Cases.	Per Cent.	Cases.
No toxic effects mentioned.	23	32	40
Toxic effects	49	68	62
Delirium	12	16	21
Deafness	28	38	33
Vomiting	17	23	15
Tinnitus	13	18	16
Headache	21	29	12
Epistaxis	5	6	6
Irregular or slow pulse	9	12	4
Albuminuria	2	—	4
Hæmaturia	1	—	1
Retinal Hæmorrhage	—	—	1
Urticaria	—	—	1

The frequency of occurrence of the various symptoms in the seventy-two cases in 1886, has been reduced to percentages in order to the better compare them with the 102 cases in 1881.

The most notable differences are in delirium, which is about 5 per cent. less frequent, and in vomiting, which is about 8 per cent. more frequent in the latter than in the former year. Headache and alterations in the pulse, which are both much more frequent, the one 17 and the other 8 per cent., are of less importance on account of the many possible causes other than the medicine which might be responsible for their occurrence, and also because they are symptoms which could more likely be omitted by the clerk.

The main fact which the table shows is that whatever alteration may have taken place in the drug or its method of administration, the chief toxic symptoms are as common now as when it was first introduced, and whatever danger there may be of such accidents as have been related is as great now as it ever was.

ANO-VESICAL CENTRE.

A correspondent of the *Medical Press and Circular* writing from Vienna, says: At the last meeting of the Imperial and Royal Medical Society of Vienna Professor Rosenthal delivered an interesting lecture on the Ano-vesical Centre. It was known that the commencement of severe disease of the spinal cord was often preceded by paralysis of the sphincters of the bladder and the rectum. From this fact it was to be inferred with some probability that the centre of these organs was to be sought for in the spinal cord, though physiologists were not yet of the same opinion. Irritation of the spinal cord produced contractions in the bladder, and according to Budge the mechanism of the discharge from the bladder was a reflectoric one, and the course of the reflective act was to be explained in such a way that the sensible nerve fibres represented the centripetal parts, and the motory nerves the centrifugal parts of the reflective organ. This mechanism was furthermore dominated by nerve fibres from the brain to the spinal cord. Professor Rosenthal here referred to the contradictory statements of different authors as to the exact seat of the reflective centre in question. Some authors stated that the seat of this centre was below the lumbar plexus, others above it. This difference of opinions was

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to be explained by the fact that uncomplicated cases of this class were of a great rarity. Quincke, basing himself on the experiments which he had conducted together with Kirchhoff, and in which the spinal cord was compressed owing to fracture of the first lumbar vertebra, stated that the centre was to be sought for in the so-called sacral nucleus of Stilling. The lecturer gave an account of a patient under his treatment, in whom the disease had supervened, four years ago, owing to a severe chill; anæsthesia of the lower parts of the buttocks, the perinæum, the external and internal sexual organs, the urethra, and the bladder, and complete paralysis of the bladder and rectum were first noticed. Contraction could neither in a reflective way nor by voluntary impulse be produced. The reflective centre of the bladder and its connection with the brain had, therefore, been destroyed. When the effect of the anæsthesia in the present case was taken into consideration, it became evident that it was quite identical with the region which Luschka had described as the pelvic division. These branches derived their origin from the inferior sacral nerves, and, moreover, conducted the motory nerves for the whole uro-genitary system. As no trace of paralysis or anæsthesia of the lower extremity was present in the patient, the lumbar spinal cord could not be affected; the seat of the affection was, therefore, to be sought for in the cone of the spinal cord. An affection of the sacral plexus, where the nerves already contained mixed fibres, was also to be excluded, owing to the want of motory appearances.

This case, which had been observed by the lecturer, together with those which had been observed by Kirchhoff, admitted of the conclusion that the ano-vesical centre was situated in the "conus terminalis" of the spinal cord.

Professor Rosenthal furthermore made some remarks on the therapy of this disease, and pointed out that the internal remedies, such as ergotine, strychnine, etc., were of no value, and that much better results were obtained by hydro-therapeutic procedures, such as "douches" on the sacral bone, and so on. He, moreover, recommended a better method of electrification, which consisted in the fact that the "anode" of the galvanic current was applied to the nape, and the "cathode" on the superior part of the sacral bone, the current being repeatedly changed ("reversed"). In this way distinct contractions of the bladder were already obtained with a proportionately slight intensity of the electric current.

In the discussion which arose on the subject Dr. Teleky directed attention to the fact that, in old people, isolated paralysis of the bladder might also occur, and that he just now had such a case under treatment.

Professor Rosenthal replied that these isolated paralyses were always to be explained by a peripheral cause.

Dr. Fellner confirmed by his own experiences the statements of Professor Rosenthal.

Professor von Dittel was also of the opinion that most of the isolated paralyses of the bladder in old people were of a peripheral character, and that they consisted in atrophic disturbance of the muscles of the bladder.

BRAIN SURGERY.

Since Molius trepanned Prince Rupert's skull, brain surgery has always had a fascination for English surgeons. No doubt many timorous members of the craft of surgery from time to time protest against and prophecy evil of trephining, particularly so when the operation is intended merely as a preliminary to a more serious step. Percival Pott tells us how in his day a simple puncturing of the great longitudinal sinus, which was productive of the happiest effects, brought upon him many and grave censures. Yet Pott's example was not lost; our great Irish surgeon, O'Halloran, became noted for his daring and success in brain surgery, and later still, Guillaume Dupuytren

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shocked the timorous and encouraged the thoughtful by evacuating a cerebral abscess. Nevertheless, brain surgery became a forbidden thing, not because there was extreme diffiulty in its being done, nor from want of success in its performance, but because of the incongruous admixture of theology with surgery, and the delimitation of the cerebral structure from the domain of surgery—it being the soul centre. And although broken skulls had allowed cerebral matter to protrude, and when protruded the objection to surgical interference was not urged, still, for a surgeon to contemplate opening the sacred inclosure of the skull with a trephine for the purpose of evacuating diseased products was condemned, though a brickbat might smash the skull, and healthy brain tissue be extruded and excised without anything like the same shock to public sensitiveness. The fact that from time immemorial a cleric had with a sharp stone scraped a hole in children's skulls to liberate the demon that caused the convulsion which to-day we ascribe usually to teething, was either forgotten or explained away as part of a religious ceremony now happily discontinued. Nevertheless, medicine in the face of all these difficulties made progress. The observation that the brain was liable to disease and that nerve tissue was as directly subject to material injuries gradually gained acceptance. Pressure as from a blood-clot was found to as completely stay its functional activity as it would that of the lung, and purulent collections were found to influence it both by pressure effects and inflammatory effects much as they do other tissues. More careful examinations of the cerebral lesions soon detected the fact that pressure in certain regions was found associated with distinct symptoms. Notably the effect produced by pressure on the internal gyration of the left frontal lobe. Everything was telling of a young generation's dissatisfaction with the "rest and be thankful" of their immediate predecessors, and when Dr. Ferrier's experiments told that the obscurity which enveloped psychology was to terminate in the brilliancy of natural light the thoughtful truthseekers rejoiced that man's intelligence had at last enabled him to contend with a hope of success against diseases which, by attacking his organ of mind, had deprived him of his prerogative of the "thinking" faculty, and reduced him to the level of the brute. To Mr. Horsley is fairly due the credit of first practically demonstrating the utility of Dr. Ferrier's experiments, and as might be naturally expected his example soon found many followers. Even the merest beginner was anxious to try his success in this new domain that medicine had reclaimed. The topography of the cerebrum became the most fascinating of studies, and the localization of the functions of thought and intellectual expression now were counted as fairly within the physiologist's domain, and as a consequence demanded the therapeutist's and the surgeon's study. Beaconsfield's maxim, however, holds good, and the case that recently occupied the Medical Section of the Royal Academy of Medicine, Ireland, about which there has been so much discussion in our columns, exemplifies it. We cannot, however, expect men trained in the past to devote the same care to the study of newly developed sciences that they did in their student days, nor is it reasonable to expect that they could divest themselves of the bias of their early training. Still, in a rapidly progressive science like surgery, dependence on the rejected formula of a dead past can bring nothing but failure.—*Medical Press and Circular.*

A CASE OF URÆMIC CONVULSIONS SUCCESSFULLY TREATED BY PILOCARPINE.

Dr. W. J. F. CHURCHOUSE in the *British Medical Journal* says: J. M., aged 21, fell ill with scarlet fever on October 13. He went on well until November 3, when symptoms of nephritis showed themselves;

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the attack was slight, and appeared to improve rapidly under treatment.

On November 10 I found him in uræmic convulsions; the fits occurred every few minutes. My friend Mr. Cox saw him with me, and with his concurrence, I injected one-third of a grain of pilocarpine into the front of the forearm; the patient soon began to sweat profusely, and the convulsions gradually diminished both in force and frequency; they recurred in the early part of the night about every fifteen or twenty minutes, but with longer intervals towards morning; at 8.30 a. m. I repeated the pilocarpine, and the intervals between the convulsions became still longer; in the afternoon, when he became sensible enough to swallow, I gave him one-third of a grain of elaterium; this acted freely, and he probably passed a little urine at the same time, otherwise he had passed none since 7 or 8 the previous evening; as the convulsions still recurred at frequent though longer intervals, I again injected one-third of a grain of pilocarpine at 9.30 p. m. During the night he had a few slight fits, and in the morning about 11 a. m., I gave him another injection of pilocarpine, and the last fit occurred about 4 p. m. on that day. In the evening I again gave him one-third of a grain of elaterium, which acted freely, and he now passed more urine, the urine having been very scant up to this time.

On November 15 he had symptoms of more convulsions coming on, but I gave him another injection of pilocarpine, and this passed off.

He lay in a semi-comatose condition from November 12 to 17, swallowing what was put in his mouth, but totally unconscious of everything going on around him, and taking no notice of anything; on November 17 he was maniacal, and on November 20 he could not be kept in bed. During the whole of this time the bowels had been kept open by occasional doses of elaterium, and he had taken a mixture containing liq. ferri perchlor. and liq. ammon. acetas. On November 22 he became sensible and talked rationally, but had no recollection of anything that had occurred since November 10; on November 25, for the first time since the commencement of his illness, there was no trace of albumen, and he improved rapidly; on November 28 he got up and dressed, and from that time made a good recovery, and is now again following his trade as a shoemaker.

I think we have in pilocarpine a most prompt and valuable diaphoretic.

THE ACTION OF NAPHTHALINE ON THE VISUAL ORGANS.

According to some recent experiments the ingestion of napthaline produces marked lesions of the retina, the optic nerve, the vitreous humor, and the crystalline lens, in guinea pigs. On the retina its administration is followed by small patches of a brilliant white, which rapidly increase in size and coalesce, principally in the neighborhood of the optic nerve. In large doses the retina is rapidly destroyed. In the vitreous humor a number of opalescent opacities appear, not unlike cholesterin. The most curious effects are those observable in the crystalline lens; the appearance of the white spots is preceded by shaded lines, followed by the formation of opacities either on the posterior surface or round the edge immediately beneath the capsule. In a few days the lens will have become quite opaque. The histological examination shows that these patches are due to an exudation of round cells beneath the capsule and between the peripheral fibres of the lens.—*Medical Press and Circular.*

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BOOK-REVIEWS.

GYNÆCOLOGICAL DIAGNOSIS, GENERAL GYNÆCOLOGICAL THERAPEUTICS, by R. CHROBAK, M. D.; and ELECTRICITY IN GYNÆCOLOGY AND OBSTETRICS, by EGBERT H. GRANDIN, M. D.—Comprising Vol. V, of the Cyclopædia of Obstetrics and Gynæcology. New York: William Wood & Company. 1887. Chicago: W. T. Keener.

The editor frequently refers to "the general practitioner" in a manner which leads one to infer that this volume is intended especially for his guidance. It will be most useful to that class of physicians, but some others may also find its pages more than simply interesting reading. The Vienna author has succeeded very well in limiting his discussion to the subjects implied by the title, and the style of treatment is characteristically encyclopædic.

The second part of the volume will probably be the most useful, since what it contains is not unknown to those doctors who are diligent readers of current medical literature. The subject-matter will be new to many of the subscribers to the Library. Physicians who are unfamiliar with the use of electricity in gynæcological and obstetrical practice will be surprised by the statements in this volume, and highly gratified if they will make intelligent attempts to verify them. The author clearly recognizes and frankly admits that electricity is still used largely empirically in this field, and he is to be congratulated in having made a most excellent résumé of the present knowledge of its usefulness and of the methods of its application. E. W.

DISEASES OF THE OVARIES. By DR. R. OHLSHAUSEN. Edited by EGBERT H. GRANDIN, M. D. Volume VIII, of the Cyclopædia of Obstetrics and Gynæcology. Pp. v and 414. New York: William Wood & Company. Chicago: W. T. Keener. 1887.

Any expectations in regard to the probable thorough and satisfactory character of this volume in the *Cyclopædia*, based upon the reputation of its distinguished author, must be considered as having been fully met in this book. It is, of course, impossible for a treatise on a subject in which so much active and accurate work is being done as in the field of surgery of which this book treats, to do more than report the history, pathology, diagnosis, and treatment up to the date of its publication, and he will be a carping critic who fails to find in this book a careful, accurate, and intelligent résumé of the present knowledge of the subject.

Since upon its successful performance so much depends, general interest will centre upon what is said of the operation for extirpation of the ovaries. The credit of the first operation is given to Ephraim McDowell, of Kentucky, performed in 1809. Nathan Smith, of Connecticut, was the next operator, and his first case, in ignorance of McDowell's work, was performed in 1821. The first English operation was by Lizars, in 1824; the first German by Chrysmar, about 1820; the first French by Woyerkowsky, in 1844. The author thinks that the most decisive advance in the history of ovariotomy was made by Spencer Wells, and he links with his name those of Washington Atlee, Keith, Baker Brown, and Kœberlé. As specimens of the author's opinions upon important, and as yet perhaps unsettled points, the following quotations may be of interest here:

"With strict antisepsis, at all events, the length of the incision exerts no notable influence upon the result of the operation." "I must earnestly protest against flooding the peritoneum with large amounts of fluid. * * * * * I have so often observed symptoms of shock immediately after irrigation with a watery solution or thymol (1–10 per cent.) that the connection between the irrigation and the shock is undoubted. Some of these patients did not recover from the collapse, and I am decidedly of the opinion that I have repeatedly lost patients as the result of these irrigations." "There are only two difficulties which occasionally prove insuperable:

"1. The extension of a malignant neoplasm of the ovary to adjacent tissues and organs.

"2. Sub-serous development of the tumor in its most aggravated form.

"On the other hand I recommend, when a larger or smaller portion of the tumor must be left behind, that it be simply replaced in the abdominal cavity and the latter completely closed. Even if the tumor, many of whose cysts have been opened, now communicates freely with the abdominal cavity, and the whole condition presents a filthy appearance, nevertheless there is no danger of sepsis or peritonitis if the operation is performed antisceptially." E. W.

STERILITY; DEVELOPMENTAL ANOMALIES OF THE UTERUS, by P. MÜLLER, M. D.; and THE MENOPAUSE, by E. BÖRNER, M. D. Edited by EGBERT H. GRANDIN, M. D. Vol. XI, of the Cyclopædia of Obstetrics and Gynæcology. New York: William Wood & Company. 1887. Chicago: W. T. Keenen.

The impression which this title produces is that the volume has the least practical value of any in the series. Whether this proves true for individual readers will depend largely upon the nature of their work. There is, however, an agreeable surprise in store for those who will take the trouble to read the book. The first part, that on Sterility, is treated with characteristic German thoroughness, and contains about everything either of value or of interest known to the profession.

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The author of the part treating of the Menopause states that he has endeavored to make the treatise of practical value to physicians, and claims that he has had exceptional facilities for the study of his subject.

HANDBOOK OF PRACTICAL MEDICINE. By DR. HERMANN EICHHORST, Professor of Special Pathology and Therapeutics and Director of the University Medical Clinic in Zurich. Volume IV. Diseases of the Blood and Nutrition and Infectious Diseases. Seventy-four wood engravings. Volume IV of Wood's Medical Library for 1886. New York: William Wood & Company. Chicago: W. T. Keener.

The translator's work of the final volume of Professor Eichhorst's valuable work on practical medicine has been as well done as that of the preceding volumes. Professor Eichhorst's work is too well known to need praise here. The fortunate possessor of this Practice of Medicine will thoroughly appreciate it, and thank the publishers for placing it within the reach of American physicians. F. B.

DISEASES OF THE TUBES, LIGAMENTS, PELVIC PERITONEUM AND PELVIC CELLULAR TISSUE; Extra-Uterine Pregnancy, by L. BANDL, M. D.; and DISEASES OF THE EXTERNAL FEMALE GENITALS; LACERATIONS OF THE PERINEUM, by P. ZWEIFEL, M. D. Edited by E. H. GRANDIN, M. D. Volume XII, of the Cyclopædia of Obstetrics and Gynæcology. New York: William Wood & Company. 1887. Chicago: W. T. Keener.

This volume, which closes the series, calls for no special comment beyond the statement that it is no less admirable than the other numbers of the Cyclopædia, and the few remarks appropriate in this connection may relate to the publication as a whole. The first four volumes, those which comprise the translation of Charpentier's Obstetrics, are perhaps the most important of the series, as this is beyond question the most complete treatise upon the subject. The fact is so striking and unquestionable that attention is again called to the greatly enhanced value which the editorial insertions give this part of the series. This occurs for two reasons: 1, the original is unfair in its treatment of German views; and, 2, upon many disputed points in the practice of obstetrics the opinions which may be here classed as the *not-French*, are both entitled to a fairer consideration than the author gives them, and are practically superior. The editorial treatment of these two points leaves little to be desired.

The merit of the several volumes of the Cyclopædia is very uniform, and the interest which they possess for the profession at large will vary much more with the particular subject discussed and with the eminence of the author than by reason of the special ability and thoroughness of the discussion. Gynæcology is undergoing such rapid development that a treatise of this kind must soon cease to represent the best opinions upon many topics, but the work is truly cyclopædic and a credit to the publishers. The great merit of the work, together with the very low price at which it is sold, will certainly insure a very large sale.

The only serious fault, the defective illustrations of the earlier numbers, can be easily corrected in the new editions, many of which ought to be called for. E. W.

A PRACTICAL TREATISE ON RENAL DISEASES AND URINARY ANALYSIS. By WILLIAM HENRY PORTER, M. D., Professor of Clinical Medicine and Pathology in the New York Post-Graduate Medical School and Hospital; Curator to the Presbyterian Hospital. One Vol.; 360 pages, 100 illustrations. New York: William Wood & Co. Chicago: W. T. Keener.

Professor Porter presents, in his book, diseases of the kidneys studied chiefly from a clinical and pathological point of view. To this end, preceding inflammatory diseases, is a brief résumé of the anatomy and physiology of the kidneys, which gives the reader a clear understanding of the various lesions and pathological conditions described under the various diseases of the kidneys.

Under the head of Bright's Diseases the author treats of the parenchymatous degenerations, acute and chronic, attending high temperature, infectious diseases, pregnancy, etc.; the lesions that occur in diabetes mellitus; gouty kidney; amyloid transformation, and the usual forms of acute and chronic inflammation of the kidney. Most clinicians and pathologists will disagree with him on the free use of the term. This is, however, of small importance. The diseases classed as Bright's Diseases are treated of separately and in language clear and concise, giving the pathology, the anatomical changes (gross and microscopical), the symptomatology, and the treatment consistent with modern investigation and thought. An excellent diagnostic table of Bright's Diseases is given on p. 104. A separate chapter is devoted to diabetes mellitus, and the subject is thoroughly and ably handled.

Part second is chiefly devoted to urinary analysis, chemical and microscopical.

The illustrations are all good, many of them made especially for the author. The book is a valuable addition to medical literature, and will prove an instructive companion to the practitioner and student.

The book is printed on excellent paper with large, clear type. F. B.

ON THE WASTING DISEASES OF INFANTS AND CHILDREN. By EUSTACE SMITH, M. D. Pp. xx and 380. Fifth edition. Philadelphia: P. Blakiston, Son & Company. 1888. Chicago: W. T. Keener.

The author states in the preface to this edition that the text has been revised, and many alterations and additions have been made. His reputation is so unquestionably established as an authority upon questions regarding the diseases of early life, that it goes without saying, that this is, as he intends it to be, a safe guide. It is also eminently practical, and a very desirable book to own.

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MISCELLANEOUS.

IMPORT DUTIES ON SURGICAL INSTRUMENTS.

At the annual meeting of the Georgia Medical Society, held January 3, 1888, the following resolution was unanimously carried:

Resolved, That the Corresponding Secretary enter into correspondence with the medical journals of the country, in order to enlist their influence in support of the movement to remove the import duties from all medical and surgical instruments and appliances, including those used in the diagnosis as well as treatment of disease, so that they may be furnished to those needing them at the lowest possible price.

In compliance with the above resolution, I wish to solicit your earnest attention, and a notice in your publication, which will claim the attention of your readers, hoping that your country readers, especially, will appreciate the truth and importance of our proceedings.

Perhaps the statement of a few facts will assist the reader in realizing the extent of the grievance, and the justice of the plea for which we ask co-operation.

1. Physicians are at the mercy of instrument makers in regard to price, make, and quality of finish, because of the lack of sufficient competition.

2. The price of instruments made in this country is out of proportion to that paid for similar instruments on the Continent of Europe.

3. Surgical instruments and appliances are so costly that but few doctors entering the profession can provide themselves with an outfit adequate to carry on a general practice. At present prices, it is impossible for a country physician's income to sustain his investing in costly instruments, and as a result, many simple cases, such as retention of urine, foreign bodies in nose or throat, deep-seated abscesses, etc., all of which could be relieved at once with the proper instruments, must either die from the immediate cause, or from the effects of time lost in seeking skillful manipulation, or else they are frequently crippled and disfigured, because the most intelligent help, though patiently given, is itself crippled for want of proper instruments.

4. The cheaper grades of instruments are either antiquated, or so poorly made that they may prove a cause of failure in operations, sapping, as it were, the natural inclinations to surgery in its inception.

5. European instruments are from 25 to 75 per cent. cheaper than ours, and their introduction into the market will enable the mass of doctors to buy those of prime necessity, will bring down the price of home-made appliances, and oblige the makers to use good material, and put a better finish to their work.

6. The removal of import duties on surgical and other instruments used by the profession, and on medicines in general, will produce the same results as we all know it did on the article of quinine.

THE WILLIAM F. JENKS MEMORIAL PRIZE.

The first triennial prize, of two hundred and fifty dollars, under the deed of trust of Mrs. William F. Jenks, will be awarded to the author of the best essay on "The Diagnosis and Treatment of Extra-uterine Pregnancy."

The conditions annexed by the founder of this prize are, that the "prize or award must always be for some subject connected with obstetrics, or the diseases of women, or the diseases of children"; and that "the trust see, under this deed for the time being, can, in their discretion, publish the successful essay, or any paper written upon any subject for which they may offer a reward, provided the income in their hands may in their judgment be sufficient for that purpose, and the essay or paper be considered by them worthy of publication. If published, the distribution of said essay shall be entirely under the control of said trustees. In case they do not publish the said

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essay or paper, it shall be the property of the College of Physicians of Philadelphia."

The prize is open for competition to the whole world, but the essay must be the production of a single person.

The essay, which must be written in the English language, or if in foreign language, accompanied by an English translation, should be sent to the College of Physicians of Philadelphia, Pennsylvania, U. S. A., addressed to Ellwood Wilson, M. D., Chairman of the William F. Jenks Prize Committee, before January 1, 1889.

Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The committee reserves the right to make no award if no essay submitted is considered worthy of the prize.

LANOLIN.—Since Professor Liebreich extracted oil from sheep's wool and designated it lanolin—wool-oil—it has to a great extent supplanted the petroleum products called vaseline and cosmoline as a basis for ointments in dermatology, because of its ready absorption by the skin. Where a simple lubricating substance is required vaseline and cosmoline answer very well, but where absorption is desired they are less valuable than wool-oil. It is claimed that the objectionable wool-odor which characterized the first preparation of lanolin, can now be obviated without impairing the other qualities of lanolin. Various toilet articles are prepared with lanolin, and designated by such names as *lanolin cold cream*, *lanolin toilet soap*, *lanolin pomade*, etc., etc. As is usual special claims are made for them, by their manufacturers, of possessing exceptional virtues. A substance called *agnine*, which is supposed to be only another name for wool-oil, is also sold.

RUSH MEDICAL COLLEGE.—The forty-fifth annual commencement exercises of Rush Medical College, the Medical Department of the Lake Forest University, were held on February 21st. The graduating class numbered 132.

The following is the list of the graduates:

Barnes, Allen C.
Barnes, Edgar Cole
Beeson, Job Strother
Benz, Henry Andrew
Best, Elmer Howard
Birsall, George Asa
Blim, Charles
Bluthardt, Oscar Robert
Boswell, Davis
Bowlby, Geo. Balfour
Brasington, E.C., M.D.
Brown, Martin Millard
Cantrell, Thomas D.
Carman, Frank W.
Carr, Andrew
Casey, Joseph M.
Cauble, Willis Benton
Cavett, Robert Wm.
Challoner, Robert
Chance, Norman W.
Cherrie, Martin B.
Collins, Wm. P., B. S.
Conaway, John D.
Corley, Charles J.
Dearborn, Henry J.
Defrees, Henry J.
Derham, James E.
Detweiler, Edwin S.
Dolph, Cassius M.
Doolittle, John Comber
Doty, Charles Willard
Dove, Joseph D. F.
Ehle, Hiram Barber
Emerson, Wm. Jesse
Fell, Joshua Harlan
Garber, F. W., B. S.
Gaston, James B.
Getsch, Ernst A.
Goddard, James Bell
Goit, Edgar Grant
Goodner, Ralph A.
Grant, Geo. Herbert
Halloran, Florence J.
Hamill, Edwin
Hanna, Harry Howard
Hanson, Frank
Harms, Henry
Heidner, Gustav Adolph
Herrick, J. B., A. B.
Herrmann, Arthur John
Hill, Thomas Caldwell
Hoover, Walker Karl
Hontz, William Cyrus
Howard, Edmund J.
Huberti, Joseph
Hughes, Albert L.
Iles, Urban Grant
Ingalls, Francis Marion
Innis, James Harvey
Irwin, George Howard
Jespersen, Thomas
Jones, Richard R.
Jurgens, Ludwig W.
Kirkpatrick, John W.
Kratochvil, George
Lane, Herbert Warren
Lange, Ignatz
Larson, Carl Frithiof
Lee, Maskel
Loughridge, Victor E.
Lovell, Frank Blair
Marston Ernest L.
Martin, William Brown
Martin, William Giles
Mattox, William R.
Maxwell, George B.
May, James Wallace
McClelland, Clarence B.
McCorkle, George Earl
McGauran, Michael S.
McGrath, John Joseph
Meath, Augustus H.
Moeller, John
Montgomery, Frank H.
Moore, Charles Fred
Munger, Clifton Deo
Murphy, Edward A.
Nelson, Herbert H.
Noble, Wm. L., B. S.
O'Malley, Michael Paul
Owsley, Frederick D.
Perekhan, John Said
Phillips, Carl Fremont
Phillips, George S.
Pitman, Samuel M.
Power, Howard L.
Quirk, John Joseph
Rahlfs, Theodore
Rawlins, John Aaron
Reece, James Nelson
Reynish, D. J., B. S.
Rick, Joseph B.
Ring, John
Richardson, John F.
Saint Cyr, Emilen D.
Sattra, Ole Magneson.
Schoenneshoefer, W.
Schubert, John J.
Schwandt, Emil J.
Seehuus, Ole Martin
Shambaugh, Levi D.
Sherwood, Francis R.
Sims, Luther M.
Smith, J. M., M. D.
Stafford, E. A., A. B.
Steele, Corwin James
Stockwell, John S.
Strickland, C. O., B. S.
Taylor, Fred L.
Taylor, John Dan
Thomas, Charles D.
Titus, William H.
Trask, Howard P.
Vaughn, Phillips C.
Werner, Henry
Wieland, Frank W.
Wilcox, Collin H.
Wiley, Frank A.
Wittman, Adolph R.
Wittwer, Herman R.
Yates, George F.
Yohe, Alfred F.

PROPOSED LARYNGOLOGICAL SOCIETY.—A new society is in course of organization in London, as a sequel to the resolution passed by the Subsection of Laryngology

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and Rhinology at the Dublin meeting of the British Medical Association. The Chairman, Dr. W. McNeill Whistler, in his opening address on that occasion, dwelt strongly on the advantages that such a society would afford to workers in these special branches, who at present have no means of bringing their results to the test of direct criticism by competent judges, except at the annual meetings of the association. It was decided that steps should be taken to carry Dr. Whistler's suggestion into effect, and Dr. R. A. Hayes, of Dublin, was intrusted with the duty of making the necessary arrangements. The list of original members already comprises about fifty names, which include those of nearly all of the prominent laryngologists in the three kingdoms. The following gentlemen have signified their intention of joining the society: Sir Morell Mackenzie, Dr. Whipham, Dr. E. Woakes, Dr. Prosser James, Dr. A. Orwin, Dr. Coleman Jewell, Dr. Greville Macdonald, Dr. Dundas Grant, and Messrs. Lennox Browne, Carmalt Jones, George Stoker, W. R. H. Stewart, and Percy Jakins, of London; Mr. C. Warden, of Birmingham; Dr. Ward Cousins, of Portsmouth; Mr. Creswell Baber, of Brighton; Dr. P. McBride and Dr. G. Hunter Mackenzie, of Edinburgh; Dr. T. Barr, of Glasgow; Dr. Philip Smyly, and Messrs. Kendal Franks, Thornley Stoker, and J. B. Storey, of Dublin; Dr. Walton Browne, of Belfast; and Dr. A. Sandford, of Cork.

UNMERITED SYPHILIS.—M. Fournier, in a recent communication, has set forth the statistics which he has taken the trouble to collect of "unmerited" cases of syphilis. In 842 out of 887 infected women, the disease was of venereal origin, leaving 45 who had contracted it in some other way. On analyzing the latter group he found that in seven the disease was hereditary; four had contracted it accidentally in infancy; eight were wet-nurses who had been infected by syphilitic infants; five were midwives who had caught it in the practice of their profession; twenty-two were cases of "domestic infection," either from nurse to child or *vice versa*, or from diseased servants; two of vaccinal syphilis; two in which the infection was conveyed in catheterizing the Eustachian tube; one consequent on rape; and finally four of unknown origin, but certainly independent of sexual contamination. With respect to the first group of 842 infected women, 366 were "gay" women; 220 were married women, and 256 were of "doubtful" social status. Of the married women no fewer than 164 had taken the disease from their husbands. In view of these figures, M. Fournier maintains that the doctrine which forbids discrimination between the different groups of sufferers is one to be unhesitatingly condemned.—*British Medical Journal.*

THE DISCIPLINARY POWERS OF THE ROYAL COLLEGE OF PHYSICIANS.—It is stated that at the next meeting of the Comitia of the Royal College of Physicians of London, a resolution will be moved by the Senior Censor requiring that no Fellow, Member, or Licentiate should contribute articles on professional subjects to journals professing to supply medical knowledge to the general public, or should in any way advertise himself or permit himself to be advertised in such journals.

THE AMERICAN ANTHROPOLOGIST, a new quarterly journal, published under the auspices of the ANTHROPOLOGICAL SOCIETY OF WASHINGTON, has just been issued. It is edited by a committee consisting of seven members. If the initial number be a fair index of what its future is to be, it will be a creditable addition to the periodical literature of our country.

ANNOUNCEMENTS.

THE AMERICAN MEDICAL ASSOCIATION.—The next meeting of the Association will be held in Cincinnati, on the first Tuesday in May.

ILLINOIS STATE MEDICAL SOCIETY.—The next annual meeting of the Illinois State Medical Society will occur at Rock Island, on the third Tuesday in May.

THE German Society of Naturalists and Physicians, will hold its next annual meeting, in Cologne, in September, 1888.

AN International Exhibition of Hygiene is to be held in Ostend, Belgium, beginning on June 1, 1888.

THE FOURTH INTERNATIONAL OTOLOGICAL CONGRESS.—The Fourth International Otological Congress will be held in Brussels, Belgium, September 10–16, 1888. The President of the Congress will be Dr. C. Delstauche, and the Secretary, Dr. C. Goris, both of Brussels. It is requested that the titles of papers to be read at the Congress be furnished to the Secretary prior to May 15.

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B. LANGENBECK, M. D.

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The Medical Journal ... ...r.

VOLUME VI. ... NUMBER I ... 4.

... COCAINE AS A LOCAL ANÆSTHETIC.

... BY ... M.D.

... Berlin* has lately directed ... attention to erythrophlœa, ... bark of ... Guineense, which also forms ... ingredient of the Ordeal ... ... from the botanical and physiological interest which ... ... possesses anæsthetic ... due to Lewin's statement that erythrophlœine ... in a ... the ... of producing local anæsthesia or ... of several hours—even of one to two days.

Since Lamont three years ... introduced ... the first local ... into ... species, many endeavors have been ... to discover among the vegetable ... such as possess the same or still ... anæsthetic properties, and some ... have become known which may correctly be called local anæsthetics, but ... in practice was hindered by ... ... secondary effects.

... myself in some experiments to try the ... of erythrophlœine hydrochlorate ... the eye, a small quantity of ... having been placed ... by dispenser ... Merck, of Darmstadt, ...

* Berliner Klinische Wochenschrift, ...

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The Medical Journal and Examiner.

VOLUME LVI. APRIL, 1888. NUMBER 4.

ERYTHROPHLÆINE AS A LOCAL ANÆSTHETIC.

BY CARL KOLLER, M. D.

Lewin, of Berlin,* has lately directed public attention to erythrophlæine, an alkaloid contained in the bark of Erythrophlacum Guinense, which also forms an ingredient of the African "Haya-poison." Apart from the pharmacological and physiological interest which these researches possess, universal consideration is due to Lewin's statement that erythrophlæine possesses in a high degree the quality of producing local anæsthesia of a duration of several hours—even of one to two days.

Since I, about three years ago, introduced cocaine, the first local anæsthetic, into therapeutics, many endeavors have been made to discover, among the vegetable bases such as possess the same or still higher anæsthetic properties; indeed, some substances have become known, which may correctly be called local anæsthetics, but whose employment in practice was hindered by some undesirable secondary effects.

I occupied myself in some experiments to try the effect of erythrophlacinum hydrochloricum on the eye, a small quantity of this substance having been placed at my disposal by Mr. E. Merck, of Darmstadt.

* A paper read in the Berliner Medicinische Gesellschaft, January 11, 1888.

The instillation of two drops of freshly prepared 0.25 per cent. solution in the eye of a dog produces the following appearances: About one minute after the application a frequent blinking with the eyelids begins, evidently in consequence of pain that still increases, for with its growing uneasiness the animal tries to wipe its eye with its paw or to rub it against some object. The eye remains closed as in a spasm; the conjunctiva is very red; injection of ciliary vessels is present. After about 20 minutes the irritation seems to reach its climax; at this time both eyes are kept closed. After another five minutes the eye is opened for a while, then for a longer time, until finally about half an hour after the beginning of the experiment it remains open. The period of irritation is passed; the conjunctiva is only slightly injected. The cornea is proven to be now quite insensible to touch and pin-pricks, which insensibility lasts at least some hours. No influence upon the pupil was observed. On the next day the eye is convulsively closed, the conjunctiva much swollen and reddened, the limbus cornea raised; the surface of the cornea is clouded, so that the pupil is hardly visible; 48 hours after the beginning of the experiment the cloudiness of the cornea was unchanged; after 72 hours the cloudiness was clearing, but had not entirely disappeared. I convinced myself by repeated experiments that the corneal cloudiness takes place, even if the trial of

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sensibility is avoided, which is always an ill treatment of the cornea.

Upon myself I experimented only once, and that with a 0.125 per cent. solution. In from one to two minutes after I had instilled two drops into my eye I felt a violent burning; at the same time the conjunctiva became injected and the eye began to water; the burning increased, and with simultaneous reddening of the skin the pain radiated into the whole corresponding half of the face, also into the ear, but especially into the nose. The pain and other symptoms of irritation reached their climax about 20 minutes after the beginning of the experiment; then diminished slowly, and only disappeared entirely after 35 to 40 minutes, calculated from the beginning.

The cornea was now quite anæsthetic; the sensibility to touch was already diminished in the second half of the irritation period. The anæsthesia lasted several hours in the same degree, and even on the following morning the sensibility to touch was diminished. In the pupil and the accommodation no alteration was to be observed, except, perhaps, a slight contraction of the pupil accompanying the irritation and corresponding to its intensity. About an hour and a half after the beginning of the experiment the sight became troubled; a thin mist lay on the objects, and as cause of that, a cloudiness of the corneal ephithelium was to be observed; the eye was without brightness. The dimness toward the evening of the same day increased so that medium-sized printing could not be read. Around all light flames the phenomenon of a spectral ring appeared, blue inside, red outside, so well known from the symptomatology of glaucoma attacks. On the following morning the cloudiness was a little less, but lasted the whole day and had only disappeared the next morning.

Of the appearances described, two seem to me to be of especial interest—the symptoms of irritation and the clouding of the cornea. All local anæsthetics hitherto known irritate in the beginning of their action, and, indeed, it is to be understood that the process by which finally the peripheral ends of nerves become paralyzed is felt as an irritation. With erythrophlæine the period of irritation is comparatively a long one. While after application of a 2 per cent. or stronger solution of cocaine it lasts about a minute, its duration after application of an $\frac{1}{8}$ per cent. eyrthrophlæine solution is longer than one-half hour. Corresponding to that, also, the influence on the nerves goes much farther, as can be recognized from the long duration of the corneal anæsthesia—many hours as against 10 to 15 minutes with cocaine. It might be supposed that danger could arise from this deep alteration of the nerves.

The clouding of the corneal epithelium is an appearance which occurs also in the use of cocaine, although in a very slight degree, and generally hardly visible, except in the rare cases in which cocaine used for operations was accused of having caused a cloudiness of the cornea of long duration. I myself, in the beginning, considered this appearance as a consequence of evaporation or drying from widely opened eyelids, enlarged eyelid-split, and insufficient winking, and I convinced myself by experiment that evaporation plays a part. But the evaporation can not be the only cause of the clouding, for, also, if it had been quite excluded, one would yet observe a slight epithelium cloudiness and point-like epithelium defects. First, my experiments with erythrophlæine strengthen me in my supposition that the cloudiness appearing with or after the anæsthesia, and increasing afterward, arises directly from the influence of these poisons. The relation existing between the duration of the irritation period, the duration of anæsthesia, and the intensity of the cloudiness clearly points to it. To explain that clouding, one must not think of an action like that of a corrosive, but of a subtler one, by which, in the epithelial cells, either directly or in consequence of paralyzing

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of the nerves, a trouble of nutrition is caused and leads to the clouding.

To the subcutaneous injection of an erythrophlæine solution succeeds likewise a period of pain of a certain duration, and then apparent local anæsthesia of the skin; but this is difficult to be ascertained with animals, and I abstained from experiments upon persons on account of the intense virulence of the drug. A dog, 6 kilogrammes in weight, into which I had made an injection of 0.002 erythrophlæine, vomited violently.

Whether the local anæsthetizing power of erythrophlæine alone or in suitable combination with cocaine may be advantageously used in therapeutics can only be proved by further experiments.

VIENNA, February, 1888.

NEPHRITIS SECONDARY TO AORTIC REGURGITATION.

BY JOHN A. ROBISON, A. M., M. D.

A Clinical Lecture Delivered at Cook County Hospital, Reported by William Whitford, M. D.

GENTLEMEN: The patient to whom I direct your attention this afternoon was admitted to the hospital on the third day of January. I will simply state, without any preliminary remarks about the history of the patient, that the case is one of nephritis due to aortic regurgitation. Albuminuria is due to three general causes—the exposure of the patient to cold or inclement weather, or to some septic material which enters the circulation and causes an inflammation of the kidney, and, finally, it may be secondary to disease in other organs, as valvular heart-disease, or constitutional disease. The case under consideration belongs to the third class of causes, the cause being aortic regurgitation. The heart being unable to carry on perfectly the systemic circulation, there is derangement of the circulation in the kidneys, causing disease, as we will see later.

The symptoms which occur in nephritis vary according to its acuteness or chronicity. In acute Bright's disease the symptoms are ushered in suddenly, and they consist of fever, generally accompanied by nausea and persistent vomiting; the skin is dry and the pulse quick, full, and tense. The patient experiences headache, malaise, loss of appetite, pains in the back or loins, extending sometimes down the limbs. These symptoms are accompanied also by scanty urine, the urine becoming more smoky-colored from the presence of blood. In the course of a few days there appears œdema of the face, with a peculiar pallor or pasty complexion, and this œdema extends to other parts of the body, especially if the patient be anæmic or debilitated. The onset of chronic nephritis is gradual and insidious, the œdema of the face, with œdema of the extremities, first calling attention to the presence of the disease. In both the acute and chronic disease the urine becomes albuminous; the microscope may reveal the presence of tube-casts, blood corpuscles, fatty oil-globules, etc., according to the stage of the disease. I think there are not a few students who have not a clear idea as to the mode of production of albuminous or bloody urine, and I wish to try and explain this point to you.

I desire first to say a few words concerning the blood supply of the kidneys, in order to illustrate in as clear a manner as possible this subject.

The location of the kidneys is such that the renal artery enters toward the centre or hilum of each kidney. When this artery enters the kidney it subdivides into a number of smaller branches which approximate in number the medullary pyramids.

These branches enter the substance of the kidney between the papillæ, and when at the bases of the pyramids, at the junction of the medullary and cortical substances, they curve inward, forming incomplete arches, giving off two sets of branches, one set running between the malpighian bodies

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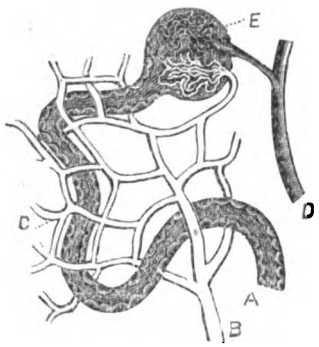
and giving off lateral twigs which form the *afferent* vessels to the uriniferous tubes.

If you will study the following figure,



modified from Johnson's "Bright's Diseases," you will be able to better understand the course the blood takes. The dilated end of the uriniferous tube (A), or Bowman's capsule, is pierced by the *afferent* vessel (D), which brakes up into a tuft of capillaries, the glomerulus, which reunites into an *efferent* vessel and makes its exit from the capsule, and immediately breakes up into a plexus of capillaries (C) surrounding the convuluted tubes, and again uniting forms the vein (B) which empties into the interlobular veins. The tuft of capillaries in Bowman's capsule is covered by the same cells as line the capsule. It must be remembered that the efferent vessel is smaller than the afferent and breakes up into a plexus. This has the effect of slowing the blood current and increasing the blood pressure in the glomerulus.

Now you can readily see that whenever the blood current in the kidney falls below that which is necessary to nourish the cells covering the glomerulus, they will die, be exfoliated, and thus allow the albumen of the serum of the blood to filter into the tubules along with the saline and watery elements that form the urine. You can also realize how easily blood may escape from these tufts into the tubules and appear in the urine. The conditions which will cause death of these epithelial cells are, first, diminished arterial pressure causing anæmia of the kidneys; second, inflammation of the kidney, producing derangement of the circulation sufficient to cause degeneration of the epithelium of the glomerulus and tubules; third, various chemicals, drugs, and septic materials derange the renal circulation in like manner; fourth, in spasmodic diseases there may be such a disturbance of the renal circulation as to cause temporary anæmia of the kidney, and, finally, in venous congestion, as in valvular lesions, when there is obstruction to the systemic circulation, the blood current is wonderfully altered, because there is a lessened arterial pressure in this arterial twig (D), on account of the weakness of the heart, and secondly on account of the congestion of the veins (C) pressing back the blood and causing stagnation in the capillary tufts (E). If any of the foregoing causes operate, you see it causes the death of the epithelial linings of the tubules and the escape of albumen, and blood at times, and these will be found in the urine. I think it simplifies matters for us to remember that whatever the cause of nephritis, the real seat of the danger is in the capillary tuft in Bowman's capsule, although, of course, we must remember that all the tissues may undergo change. Degeneration of the epithelial structures is the great source of albuminuria.

In acute Bright's disease and chronic parenchymatous nephritis, the degeneration of the epithelia is primary; in cirrhotic Bright's disease, the epithelial degeneration is caused by the cellular infiltration of the inter-tubular connective tissue, and the partial or complete obliteration of the tubules, and death of the epithelial structures, by reason of this growth and contraction of connective tissue. In the amyloid kidney, the glomeruli, arterioles, tubules, and all the tissues become infiltrated with amyloid material.

I will simply say a few words about the general treatment for all forms of nephritis. The first indication, of course, would be complete rest both for the kidneys and

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the body, the patient being placed at rest in order to obviate as much as possible the necessity of the kidneys doing much work. In the next place, inasmuch as the skin is generally inactive, we should use diaphoretics to assist elimination. You may also in suitable cases stimulate elimination by means of cathartic remedies. In this way you prevent the necessity of eliminating poisonous materials from the blood via the kidneys. Diaphoresis may be induced by hot baths, vapor or Turkish baths. You should also give diluents, and the best diluent, of course, is the purest water. Mineral waters, especially in cases of acute albuminuria, are objectionable, because if the water contains very much mineral matter, as it sometimes does, it is irritating to the kidneys, and during all stages of the disease we desire to avoid irritants. If there be much pain your patient must be kept as easy and comfortable as possible with opium. You should also avoid the administration of diuretics, which are irritating to the kidneys, such as the balsamic preparations, which are very apt to produce hæmaturia. When the urine becomes nearly normal and is secreted more freely, you may give remedies specially directed to influence the kidneys locally. The remedies which have been given so far in these cases are more or less empirical. They are principally tincture of iron, which is used on account of its local astringent as well as diuretic action, and the tincture of iodine. Digitalis is a remedy of prime importance, because it raises the blood pressure in the kidneys and assists in restoring the nutrition of the epithelial cells, as well as being a potent diuretic.

In the case of this patient you must remember the fact that the nephritis is the result of aortic regurgitation; therefore we must try and remove the cause, by inducing compensatory hypertrophy of the heart. He has been taking for some time ten minims of the tincture of digitalis four times a day; tincture of iron, fifteen minims, four times a day. On admission, the amount of albumen present was 10 per cent. He has also been given during this time Rochelle salts, half an ounce each morning, in order to keep his bowels active, and pilocarpine, one-eighth grain hypodermatically, when necessary, to increase the action of the skin, in conjunction with hot-air baths. The last examination of the urine was made on the 21st of January, specific gravity then being 1008; number of ounces passed in twenty-four hours, sixty-two. The amount of albumen is unchanged. No casts observed under the microscope. The indications are that compensatory hypertrophy is being established, and our prognosis is that this man will improve for a time.

498 Washington Boulevard.

CYST OF THE PANCREAS, WITH REPORT OF A CASE.

BY D. A. K. STEELE, M. D.,

Professor of Orthopedic Surgery in the College of Physicians and Surgeons.

[Read before the Chicago Medical Society.]

Senn, of Milwaukee, has so thoroughly elucidated the subject of diseases and injuries of the pancreas, that, thanks to his researches and experimental observations, the diagnosis and surgical treatment of the somewhat rare affection known as cyst of the pancreas becomes not only possible, but also safe and comparatively satisfactory.

So far, surgical literature contains reports of but seventeen cases. To this list I will add one, making eighteen on record up to date. It is a matter of satisfaction to know that the later additions to this list have all been made by American surgeons, Bull of New York, and Fenger of Chicago, preceding me in reporting cases during the past year. Case XVIII, Traumatic Cyst of Pancreas, presents the following condition and history:

Name, William Johnson; civil state, single; age, 40; occupation, police officer; nativity, Indiana, U. S.

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Family History.—Parents, sisters, and brothers all living and in good health. No hereditary taint exists in the family.

Previous History and Personal Habits.—The patient had been in good general health up to the commencement of his present illness. When twelve years old he fell on his abdomen across a rail, and for the subsequent two weeks was unable to assume a recumbent position. About fifteen years ago he was struck on one side, below the ribs, during a fight. While railroading, some thirteen years ago, he was dragged on the ground and squeezed between cars, but no immediate, serious symptoms followed. His right fibula was fractured and foot dislocated outward, in 1876. He has had chancroids and bubo; but, with this exception, he gives no venereal history. He is a moderate smoker, takes an occasional drink, but never indulges in liquor to excess, and has been a police officer for the last ten years.

History of Present Illness.—In 1875 a swelling was noticed, occupying part of umbilical and epigastric regions. It slowly increased in size, assuming the shape of a hen's egg. It was tender on pressure, and its point of greatest prominence was located in the median line about midway between xiphoid appendix and umbilicus. At that time he was engaged as a locomotive engineer, liable to exposure and to great irregularity in the time of eating.

He does not recollect having met with any accident or fall that he could immediately associate with the appearance of the swelling, but he did suffer from "heartburn," colicky pains and cramps at the seat of the tumor, and occasionally he also vomited some stringy mucus for a few days preceding the first sign of the swelling; his bowels remained regular. Professor Hall, of the Hahnemann Medical College, pronounced the tumor an omental cyst, and withdrew by means of the aspirator about three pints of chocolate-colored fluid, of about the consistency of porter. Some fullness of the abdomen remained, but a distinct swelling did not recur until in 1883, in August of which year Dr. Powell removed about four gallons of brownish fluid with the trochar. In the spring of 1884 the same quantity of similar fluid was removed. In November, 1885, Dr. Fenger removed with an aspirator about four and one-half gallons of porter-like fluid, some of which he applied to the integument of the patient's arm, where it produced a slight redness. In November, 1886, Dr. Powell again withdrew about the same quantity of fluid.

During all that time the patient was in good general health; his appetite was good; his digestion was normal, and his bowels regular, though his stools were perhaps a little light in color. There was no marked tenderness of the abdomen at any time, but there was considerable pain in the back, which became aggravated each time that the tumor increased in size. He felt somewhat weak for about two weeks after each removal of fluid, but after that felt well until the increasing size of the swelling produced shortness of breath and pain in the back. In 1883 he had a hydrocele on the left side of the scrotum, which was cured by iodine injections, after withdrawal of fluid. He has varicose veins of both legs, of several years' duration. There has been no swelling of the ankles at any time. His usual weight has been about 195 lbs. up to the last three months, during which he has gradually lost flesh, and now he weighs 172 lbs. The tumor is at present as large as it ever has been, and produces shortness of breath, pain in the back, pain in the left hip-joint and thigh, but no loss of appetite or noticeable change in any of the excretions; and with the exception of the loss in weight, the patient's general health seems unimpaired, and were it not for the abnormal size of his abdomen, he would present the appearance of a strong, healthy, and vigorous man.

Physical Examination.—Inspection reveals an enlargement of nearly the whole abdomen, its most prominent point being

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in the mesial line, about 5.5 inches above the umbilicus and four inches below the xiphoid appendix, when the patient is recumbent. When he is upright, the greatest prominence is a little to the right of mesial line. By percussion, there was made out a line of dullness extending from a point two inches below the left nipple, and passing four inches below the right nipple, half an inch below and parallel with the right costal arch to about two inches above the lower border of the right lumbar region, thence obliquely across the abdomen one-half inch below the umbilicus to the anterior superior spine of the left ilium. From this line and the crest of the ilium upward to a line from a point two inches below the left nipple to the lower border of the tenth rib at its origin, dullness is complete on the left side around to the spinal column. It will thus be seen that the tumor occupies the whole of the epigastric region, part of the right hypochondriac, nearly all of the right lumbar and umbilical, and the whole of the left lumbar and left hypochondriac regions. Percussion elicits dullness over the entire area. The upper border of the liver lies one-half inch below the right nipple; its left border extends two inches to the left of the right nipple; its lower border runs parallel with and an inch above the right costal arch. The space between the liver and the area of dullness gives tympanitic resonance. The apex beat is located one-half inch below the left nipple, and two inches to its right; between the area of cardiac dullness and the upper border of the tumor, resonance is slightly tympanitic. His lungs are normal. The surface of the enlargement is smooth and tense. Fluctuation is distinct over the entire area of dullness. There is limited tenderness on pressure immediately above the upper border of the tumor and in the lower part of the right lumbar region. There is no hydatid fremitus, no expansile pulsation, no auscultatory murmur, no enlargement of superficial veins of abdomen, no œdema of the lower extremities, but varicose veins of both legs exist.

October 14. *Fæces.* — Dark brown in color, of consistency of dough, medium in amount, very smooth and oily in appearance, looks as if food were well digested.

Urine.—Examination negative.

October 15. *Operation.* — With the assistance of Drs. N. Senn, E Powell, E. E. Babcock, and the house staff, under strict antiseptic laparotomy precautions, an incision about four inches in length and two inches to the left of the umbilicus was made through the abdominal wall, the lower angles of the incision corresponding to the site of the various aspirations previously performed. The peritoneal layers were divided on a grooved director. There were no adhesions between the peritoneum and the cyst-wall, which was very vascular and moved freely with each respiratory movement. The peritoneum was then stitched to the abdominal wall by means of silk sutures, the surfaces of the cyst-wall corresponding to the margins of the incision were lightly scratched with a blunt needle in order to excite firm cohesive inflammation, the wound packed with idoform gauze, and a heavy antiseptic dressing applied.

The second operation was done without any anæsthetic, Dr. E. Powell and the house staff being present. The dressing was removed and the wound found perfectly aseptic, with firm adhesions between the peritoneum and the cyst-wall, the exposed surface of which was covered with a thick grayish layer of exudation; the sutures were removed from the margins of the incision. Primary union had taken place between the incised integument and the peritoneum. In order to demonstrate with certainty that none of the abdominal viscera covered the tumor, a hypodermic needle was introduced into the supposed cyst-wall, which was found uncovered, but increased in thickness to about three-fourths of an inch, due to the abundant plastic material that had been thrown out. By means of Paquelin's cautery, at a dull red heat, a deep furrow was plowed through the middle of the surface of the

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cyst-wall exposed by the preliminary incision, until the wall was thin enough to permit a large trochar and cannula to be pushed through easily, without any danger of rupturing the adhesion that bound the tumor to the abdominal wall, and about 15½ pints of porter-like fluid removed, while an assistant simultaneously exercised firm pressure over the abdomen. The edges of the opening into the cyst were then seized and securely held by catch-forceps and tenacula, a piece of strong silk passed through and looped, in order to still further secure the sac from being pushed out of sight, while a double drainage-tube, about half an inch in diameter and eight inches long, one limb perforated and the other whole, was introduced. The surface of the abdomen about the incision into the tumor was anointed with iodoform vaseline, to prevent any possible digestion by the fluid, and a copious absorbent dressing applied, and firm compression secured by an elastic bandage.

The patient suffered but little pain during the operation, and felt very well at its conclusion. Was placed on liquid diet.

October 27. Soup and crackers for dinner. Dressed, looking very well. Discharge decreasing. Skin not digested. Shortened tubes half an inch. (No iodoform used, Bismuth sub nit.) Appetite increasing.

October 28. Rested better than had for several nights previous.

October 29. Dressed. Co. Glyc. powder.

October 30. Slept well.

November 1. Dressed. Skin not digested. Tubes shortened half an inch.

November 2. Slept fairly well.

November 3. Dressed.

November 5. Dressed. Tubes shortened half an inch. Cavity appears to hold about three ounces. Discharge clear, somewhat stringy, and has odor of infusion of hay.

Specimens of the fluid were submitted to Professor Gibson, of the College of Physicians and Surgeons, and to Professor Haines, of Rush Medical College, for examination.

Professor Gibson reported that "the fluid from the pancreatic cyst, is composed largely of albumen, serum, blood corpuscles, a small quantity of fatty matter indicating cholesterin, oxalate of calcium indicating oxaluric acid, sodium and potassium salts in small quantities, together with a large quantity of water. I was unable to test for digestives."

Professor Haines reported negative results.

A careful examination of the interior of the cyst with a probe and the finger shows that it involved principally the tail of the pancreas or the splenic end; also, that its interior is lined with calculous concretions, probably resulting from chemical changes in the cyst contents. At present, three and a half months after the operation, the cyst continues to discharge two or three ounces of light-colored semi-purulent fluid, with a fresh hay-like odor. The cyst, when freely distended, now has a capacity of twenty-eight ounces. The sides are thrown into irregular folds or pouches, as the result of the contraction that has taken place. The cyst-wall is very thick—half to three-quarters of an inch—and covered in places with a calculous incrustation, flakes of which can be readily removed with the finger nail. The patient's general health is good, but I am not satisfied with a cure by having established a permanent external pancreatic fistula, as advised by Senn. In this case, the sac left is too large, and the discharge too copious and annoying to the patient. I believe that we will be obliged to treat it as we would an abscess or gangrene of the pancreas, by through-and-through drainage, thereby affording perfect collapse of the sac and subsequent retraction to a small fistulous track with a minimum amount of discharge and inconvenience.

This can only be done by left-lumbar drainage, above or by the side of the kidney. The anatomical environments of the posterior wall of the cyst would preclude safe drainage in any other direction.

Senn advises, in the case of abscess, the

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carrying of a strong pair of curved forceps by the side of or above the kidney, and cutting down upon the point as it carries the cyst-wall and skin outwards in the loin; then to open the forceps, seize a large rubber drainage-tube and draw it into the abscess-cavity out of the anterior original incision. I do not agree with Senn in this proposition, because I believe the technique is faulty. A better plan would be to carry the drainage-tube down through the original incision to the bottom of the cyst with strong curved forceps, then to push the point against the skin until plainly felt distending it, then to make an incision down upon the cyst-wall over the end of the forceps, and lightly sear the edges of the incision with a Paquelin cautery to seal up any bleeding vessels. A strip of iodoform gauze may then be carried down to the sac-wall to act as a capillary drain for any fluid that might form a pocket in the loose connective tissue around the kidney, and finally to incise the sac over the forceps, push the *forceps and the drainage-tube through*, expand the blades of the forceps, so as to tear the incision in the sac slightly, then to close and withdraw them. In this way we run the minimum amount of risk of infection of *clean* tissue, or of separating the connection between the posterior cyst-wall and adjacent connective tissue.

The result in this case, at the date of this report, is therefore not wholly satisfactory. We have established a permanent fistula, as recommended by the highest authorities, but on account of the extreme thickness of the walls of the cyst, an ideal contraction of the cyst can not take place, and a subsequent resection of a portion of the cyst-wall around the fistulous orifice will be necessary, or else the through drainage previously suggested.

CONCLUSION.

Remarks.—The points of interest in this case are:

1. Its traumatic origin, being noticed a few months after a severe contusion of the body and a compression of the pancreatic region between cars.

2. Its slow growth and great size, without marked impairment of health, due probably to its originating in the tail of the pancreas; the growth extending over thirteen years (equal to the longest on record), and containing four and one-half gallons of fluid.

3. Its walls being lined with calculous incrustation, and raising the question as to whether its origin might not be due to an impacted calculus in the common duct.

4. Incision and drainage through the anterior abdominal wall not being followed by collapse and contraction of the cyst at the end of three and one-half months, raises the question of the advisability of through-and-through drainage, or excision of a part of the sac.

1801 STATE STREET.

THREE CASES OF NERVE-INJURY. RECOVERY WITH OPERATION.

BY H. H. FROTHINGHAM, M. D.

[Read before the Chicago Medical Society, March 19, 1888.]

The first case was that of a young man, 20 years of age, who had received a razor-cut across the anterior surface of the arm, about four inches above the elbow-joint. Upon examination it was found that the cut extended to the humerus, dividing the brachial artery, median nerve, and partially severing the biceps and brachialis anticus muscles.

Under ether the artery was ligated at both ends, the muscles sutured with catgut, and the wound closed. An antiseptic dressing was applied, and over this a plaster cast fixing the arm in a flexed position, in order to remove all strain from the muscle sutures.

Twenty-four hours later the operator, becoming uneasy about the divided nerve, reopened the wound and sutured the divided sheath, thus approximating the

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nerve ends; the material used for suture being fine catgut, and the point so taken that the portion of the stitch contained within the nerve-sheath lay parallel to the nerve-fibres. A bone drainage-tube was introduced at the inner angle of the wound, which was closed and dressed as before.

For about twenty-four hours the patient complained of tingling in the first three fingers of the hand, after which time there was no discomfort. Sensation returned rapidly to the area supplied by the median nerve, being apparently normal at the end of five days.

Flexion of the fingers and thumb and of the hand upon the forearm, was possible after four days, and increased rapidly in extent.

The wound healed throughout by first intention, and was entirely well in twelve days. At this time, sensation in the hand and forearm appeared normal; flexion of the wrist and fingers was easily accomplished, but the grasp of the hand was weak.

Control over the muscles increased, and at the end of three weeks there was apparently normal innervation of the hand and forearm.

CASE II.—Male, aged 30. Injury: A razor-cut across the forearm about three inches above the wrist, severing the radial and ulnar arteries, median and ulnar nerves, and tendons of the flexors sublimis digitorium, carpi radialis, carpi ulnaris and palmaris longus. When first seen a compress was found placed over the forearm above the wound and drawn so tightly as to control hæmorrhage. The wound had been filled with Monsel's solution, and the skin incision stitched with superficial sutures of fine silk, leaving the ends of each thread a couple of inches in length. Cleansing and dressing of the wound involved the loss of some blood.

After thorough cleansing, the arteries were tied above and below, the nerves sutured as in Case I, and the severed tendons identified; the ends of each being then sutured with juniper catgut.

A catgut drain was placed deeply through the wound, the skin was sutured, a dressing applied, and the arm bound upon a Levis tin splint commonly used for fractured radius. Circulation was feeble, and the hand cold for two days, after which time the natural color and warmth were restored.

At this time sensation in the palmar surface of all the fingers and thumb was possible but slight.

Further examination into nerve condition was impossible at this time on account of the severed tendons.

Eight days after the injury the wound was entirely healed.

Flexion, abduction, and adduction of the thumb were possible, showing a return of function, at least in the median nerve.

Sensation in the hand was normal.

In four weeks the splint was removed and careful exercise advised. The patient had absolutely no pain, but a numb feeling in the hand lasting only for the first two days, and due probably to lack of blood-supply.

CASE III was that of a lady, aged about 35 years, who sustained a fracture of the right humerus by a fall upon one elbow.

The fracture was situated just below the insertion of the deltoid muscle, and was oblique; the displacement was extreme.

The patient complained of great pain in the forearm and hand, which was not relieved by reduction of the fragments of bone.

Morphine in large doses was necessary in order that any sleep might be obtained.

Two days later the pain was somewhat diminished and was referred by the patient to the area of distribution of the musculospiral nerve below the elbow.

Five days after the injury, motion of the wrist and fingers was seen to be impaired.

Seven days later the extensors and supinators of the hand and forearm were found to be completely paralyzed, and there was œdema of the back of the hand.

One month after the injury the condition was as follows: There was strong bony union of the fracture; there was cutaneous

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anæsthesia of the back of the hand, with œdema and glazed skin, complete paralysis of extensor and supinator muscles.

Under a diagnosis of compression of the nerve, an operation was suggested to the patient, who demurred. Faradism, as the next resort to exercise the muscles, was advised.

About this time the patient left the city and placed herself under the care of a specialist, who applied both galvanic and Faradic currents to the arm several times a week but without improvement.

Two months later the lady returned unimproved and ready for any measures which promised relief. Accordingly, the nerve was cut down upon and found just as it reached the front of the internal intermuscular septum; from this point it was traced backward through what had been the musculo-spiral groove, but now corresponded to the line of fracture and was filled with callus, against which the nerve was found compressed by a band of cicatricial tissue about an inch in width and one-fourth of an inch thick.

This cicatrix was the result of laceration of the soft parts, dependent upon the extreme displacement of fragments of fractured bone. The nerve was not caught in bony callus, but was found free in its sheath, though diminished to about one-third of its normal size, and tinted a yellowish brown at the point of constriction, this tint shading off into light yellow below and clear white above.

The cicatrix was excised and the cut triceps muscle united by catgut sutures, bone drainage-tube introduced, and the wound closed. The incision healed by first intention.

Within twenty-four hours after the operation acute pain appeared in the hand and forearm, but gradually subsided, lasting perhaps ten days.

Two weeks afterward very slight extension of the wrist could be accomplished, sensation having returned nearly to normal.

Improvement from this time on was constant, and twelve weeks after the operation the patient had resumed her former occupation—that of fancy embroidery, requiring a high degree of skill in the use of fingers, and was apparently as skillful as ever.

At the present date the hand and arm seem perfectly normal, with the exception of the scar left by the operation.

The points of greatest interest are, briefly:

In Case I, primary union of the nerve though the severed ends were left for twenty-four hours before being approximated.

In Case II, primary union and early recovery, although the circulation in the hand was not fully re-established for two days.

In Case III, after twelve weeks' entire loss of function, the nerve showed unmistakable signs of recovery within two weeks from the date of the operation, and in ten weeks more had entirely recovered.

4806 Lake Avenue.

ECZEMA SIMPLEX DEPENDENT UPON AMETROPIA.

BY S. O. RICHEY, M. D.,
Washington, D. C.

In the Archives of Ophthalmology, Volume XIII, No. 1, 1884, may be found the report of a case of eczema of the malar prominences, whose exciting cause was an anisometropia, the eyes being hypermetropic to a different degree.

I have now to supplement that with a similar case, referred to me, from the same family, by my friend, Dr. C. E. Hagner.

October 8, 1886, Miss S. T., a cousin-german of C. K., consulted me, complaining of temporal pain, and pain at the nucha, almost continuous. Corrugated supercilia indicated the demand upon the circumorbital muscles for aid in ciliary adjustment. Frequently, the protracted use of the eyes upon objects at close range was followed by an eczematous eruption over the malar prominences. V. R. $= \frac{20}{xx}$: V. L. $= \frac{20}{xxx}$. Reads Sn. 1, at 12 inches.

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Insufficiency of the external recti at 18 feet =2°. Eyes normal in other respects. Mydriasis reduced the vision of each eye to $\frac{20}{cc}$, which was restored to $\frac{20}{xx}$ by a +2. Ds each.

The lenses were worn constantly for some months, and then were laid aside for distance, though she still resorts to them for near vision. I have often seen the patient since to learn that the relief from the pain and eruption has been permanent.

These two cases only have occurred in my professional experience, and I can find no mention of any other. They are interesting for the aid they may afford in the study of the pathology of eczema.

EDITORIAL.

THE AMORPHOUS URATE DEPOSIT.

The above forms a portion of the title of a valuable paper contributed to *The Medical Chronicle* (March, 1888) by Sir William Roberts. The author first abstracts the paper of Dr. Bence Jones (*Journal of the Chemical Society*, 1862). He gives an unqualified assent to the propositions enunciated in that paper, the grounds for which he has carefully investigated. He adopts the nomenclature of Dr. Jones, and also his formula; considering the amorphous urates to consist of quadurates of potassium, sodium, and ammonium having the general formula:

$$\left\{\begin{matrix} H \\ H \end{matrix}\right\} \breve{u} \quad \left\{\begin{matrix} M \\ H \end{matrix}\right\} \breve{u}$$

These amorphous urates, after being washed with alcohol on a filter, or better still, separated from the fluid portions of the urine by allowing them to fall upon a sheet of blotting-paper, are found to readily decompose on the addition of water. A minute portion placed under a microscope will show the gradual formation of uric-acid crystals when water is added. Assuming, then, that the uric-acid in the urine exists normally in the urine in the form of quadurates, the question is asked, why are they deposited in the form of amorphous urates, instead of being broken up into bi-urates and uric acid?

The author, in experimenting with normal urine upon the purified deposit, found that the inhibitory power was comparative and not absolute. The time occupied in this change varied inversely as to its concentration. It was further found that, if urine was dialysed with an equal volume of water, it lost for the most part its power of preventing the precipitation of uric acid from the amorphous deposit. This fact led to the inference that the crystalloids of the urine were the chief factors in preventing this change. Solutions of these various crystalloids were prepared and their effect in preventing the change noted. Uric acid was deposited from solutions of urea almost as promptly as in simple water. The chlorides and sulphates, in the proportion of 1 per centum and upwards, exerted considerable delay, but did not approach the normal urine in its power of preventing the decomposition of quadurates. The most pronounced effects were obtained from phosphate of potassium, a solution of 0.2 per centum acting as perfectly as normal urine, while those as dilute as one part in 2,000, sensibly delayed the process as compared with pure water.

The importance of this discovery cannot be overestimated, and must in a great measure modify our views regarding the cause and pathology of calculous disease and gouty concretions—as Dr. Roberts says that the soundness of the inference is substantiated by Mr. Plowright, who conclusively shows that abundance of salt in the food hindered the formation of calculus. This he erroneously attributed to the increased solubility of uric acid in saline solutions; whereas, it is really due to the power salines have of preventing the decomposition of the quadurates.

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It is also apparent that the hypothetical "acid fermentations" described by Scherer, in which the aid of a special fungus is invoked to liberate the uric acid in neutral sodium urate, must be abandoned, at least, in so far as the first portion of the process is concerned, and likewise the theories of Brücke & Röhmann.

ADULTERATION OF FOOD AND MEDICINE.

The oleomargarine legislation of two years ago, and the recent discussions before a Congressional committee, have given the public an idea of the extent to which several important food-products have been adulterated, or mixed with similar substances of inferior quality. The numerous newspaper comments, on these and other phases of the adulteration question, are preparing the people of this country for legislative enactments, such as now protect the people of Great Britain in the purchase of food and drugs.

The English law does not prohibit the sale of mixed or compounded articles, except when unwholesome, but provides that such articles must bear a label, giving their composition in terms which can be understood by the purchaser.

A Chicago spice-grinder sells "selected," "pure," and "strictly pure" pepper, cinnamon, and cloves. The first, or "selected," grade may be adulterated to the extent of 50 per centum, the second to the extent of 10 or 15 per centum, while the third is what the labels indicate. An uninitiated purchaser would expect to find in a "selected" article something even better than "strictly pure." "Refined lard," "creamery butter," and "extract of coffee" are familiar illustrations of a misleading and dishonest use of terms.

Local laws are generally inadequate to correct these evils, but a broad enactment of the National Legislature, compelling manufacturers and dealers to sell food-products for what they are, would give the consuming public general satisfaction.

In several States, and in a few large cities, efforts have been made in the last few years to check the sale of skimmed or watered milk for the pure article. It may be safely said that, in the larger cities and towns, where milk is not regularly examined, 75 per centum is skimmed or watered. What can be done by good laws, well enforced, is shown in the city of Boston.

In 1887, of the samples collected, over 60 per centum were adulterated; in 1884 over 40 per centum were bad; in 1885 30.64 per centum were bad; in 1886 18.55 per centum were bad; while in 1887 the number was reduced to 12.54 per centum; and this with a high standard.

In Chicago something has been done in this direction, and while the results are not as apparent as in Boston, they show, however, that the work begun by Health Commissioner DeWolf is beginning to be felt among the dealers.

The character of the milk sold in this city now is much better than was the case a few years ago.

THE INDEX MEDICUS.

It seems only natural to presume that out of the large number of physicians in America alone, a sufficient number would be found to subscribe for the *Index Medicus* to meet the current expense of publishing it. As supplementing the *Index Catalogue* of the library of the Surgeon-General's office, it is unique and worthy of liberal support, yet we are assured by the present publisher of it, Mr. George S. Davis, of Detroit, that it is not self-supporting, and the same was the case in the hands of its first publisher. It is not to be supposed that a publisher will continue, indefinitely, to publish at an annual loss to himself, even so important and so desirable a reference index as this, and we venture to express the hope that a large enough number of members of our profession, both

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in this and other countries, will be sufficiently interested in the continuance of a work so valuable for reference as to subscribe for it, and to make it, at least, self-supporting. If this venture should prove a failure from lack of financial support, it is probably safe to assume that another will not soon be made, and its disappearance from our medical literature would be a matter of lasting regret. The work necessary in its preparation, and the thoroughness with which that work has always been done in this Index, entitle it to generous support, which we bespeak for it.

SANITARY MATTERS IN MICHIGAN.

The *State Board of Health* of Michigan is doing good practical sanitary work in that State, which merits commendation. Not the least important of this is the holding of sanitary conventions, under the auspices of that board, in the various cities of the State.

In those conventions are discussed not only the local questions of a sanitary nature, but the subject of sanitary science in general is made familiar, and in a practical way, to citizens who would, but for such opportunities as are afforded by those conventions, give little if any attention to many of the questions that seriously influence the well-being of the community, as well as of the individual. The amount of useful information that is, in this way, conveyed to the masses is great and of incalculable value to them. It not only instructs them in useful methods of guarding against contagious and infectious diseases, but, what is of even greater importance to them, aids them in making intelligent efforts to have their homes and their immediate environment healthful. This plan of diffusing useful knowledge might be profitably imitated by other States.

SOCIETY REPORTS.

TRANSACTIONS OF THE GYNÆCOLOGICAL SOCIETY OF CHICAGO.

REGULAR MEETING, DECEMBER 16, 1887.

The President, HENRY T. BYFORD, M.D., in the Chair.

The PRESIDENT exhibited

A NEW UTERINE ELEVATOR,

and said: I have been in the habit, for a long time, of introducing an ordinary straight, hard-rubber intrauterine stem into the retroflex uterus before replacing it, in order to stiffen or straighten it, and to serve as an indicator of the position of the fundus after it has ascended out of reach. Last summer a cutler showed me a uterine elevator, invented by Dr. Miller, of San Francisco, which consisted of a straight steel stem, fastened upon the end of a thimble, with the end in view of making the stem a continuation of the finger end. I was unable to use this one, because in bending my finger so as to push the cervix back in place, my knuckle would catch against the posterior vaginal wall or pelvic floor. I therefore constructed the instrument which I show you. There are three stems—a jointed steel stem, like that upon the end of Emmet's elevator, and two copper ones of different sizes, slightly flexible. Any of these may be attached to a shovel-shaped piece in which the finger end lies at right angles to the stem. The cervix may thus be pushed backward or sidewise, and the fundus pried forward. With the finger thus against the end of the stem, and practically against the cervix, we can calculate the position of the fundus, the amount of resistance to replacement, and avoid all violence and danger.

The SECRETARY read the following

REPORT OF A CASE OF TUMOR OF THE ILEUM; DEATH FROM INTESTINAL HÆMORRHAGE; EXTENSIVE COMPLICATING LESIONS.

Reported by Dr. F. W. MERCER.

The following history was communicated

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to me by Dr. Converse, the attending physician:

Annie W., single, æt. 34 years, was always considered in good health. Had menstruated regularly without undue pain till within the past year, when it was observed that the flow was not quite as copious as in health. All the other bodily functions had been regularly performed so far as the friends knew. Miss W. was of cheerful disposition, vivacious, and physically strong, being able to toss her sister's child, weighing about twenty pounds, up at arm's length above her head.

About one year ago she consulted a leading physician of this city, to whom she complained of a throbbing sensation in the left inguinal region, and also of some slight digestive disorder. The doctor informed her that he considered the throbbing due to the presence of gas in the intestine, and prescribed some digestive. After this the patient went along as usual, not making any special complaint, till the morning of October 16, 1887, when she said she felt tired, reclining upon the bed in her room. About 11 a. m. she had a movement of the bowels, consisting almost entirely of blood, but not large in amount. Dr. C., who examined the stool, concluded it was due to "bleeding piles." Absolute rest was ordered. At 12.30 p. m. the patient left her bed and entered the bath-room, where she fainted while passing another bloody stool. She was carried back to bed, where she soon revived. Dr. C. saw her again, and ordered pyrogallic acid and ergot, with brandy at short intervals. From this time till 9 p. m. she grew very restless, having involuntary discharges of blood, which were received upon cloths, making any accurate estimate of quantity impossible. At about the last-named hour I was called in consultation, and found the patient tossing from side to side of the bed, groaning and complaining of pain in the umbilicus. The features looked shrunken and pinched, the surface blanched and clammy, the face very cold to the touch, and the pulse barely perceptible. In fact, the patient appeared moribund from hæmorrhage.

An examination of the abdomen was made, and the presence of a tumor, quite symmetrical, of globular form, was discovered in the median line, just above the pubes; an enlarged uterus was suspected as the source of the hæmorrhage, and an examination per vaginam was made, with the result that the os was found to be of pin-point character, cervix elongated, and giving no indications of hæmorrhage.

Hot-water bags and bottles were applied to the surface, warm blankets packed about the body, and brandy given subcutaneously, with aromatic spirits of ammonium by the mouth. Transfusion was thought of, but, the means not being at hand, it was not tried. Dr. E. W. Sawyer was called, but little could be done, as the patient was now *in articulo mortis*.

Section, fourteen hours after death; Dr. E. D. Converse, Dr. E. W. Sawyer, Dr. W. Barry, Dr. Frank T. Andrews, and your reporter being present. The section was made by Dr. Frank T. Andrews. The body appeared well nourished; the rigor well marked. Upon reflecting the abdominal parietes, the intestines appeared rather pale, and not unduly distended. At the lower hypogastrium a tumor was found resting in the median line. It was globular, ten centimetres in diameter, and weighed four hundred and fifty-four grammes; was moderately firm in consistence, and attached by a slender pedicle to the small intestine (ileum), about fifteen inches above the cæcum. Upon section of the ileum, an oval opening was discovered upon its mucous surface, about four millimetres by three millimetres. This opening corresponded to the attached pedicle, and communicated directly with an artery of about four millimetres calibre. It was undoubtedly from this that the fatal hæmorrhage occurred. There were old and extensive adhesions of the intestines to the peritoneum. Both the right and left kidney showed a greatly reduced cortex; and the tubuli

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and pelves were found filled with pus. The liver was very fatty and friable, breaking under pressure like old granular tallow. The uterus was converted into an irregular lobulated mass, consisting of fibroid tumors. The thorax was not opened.

Dr. F. W. MERCER: I very much regret that I have not the stained specimens to show you to-night. I have, however, examined the tissues, and the tumors of the uterus are intramural myomata. The tumor of the intestine is also a myoma. It is a very vascular structure. I have been unable to develop the literature on this subject; few, if any, such cases have been reported, and I have not been able to find a parallel case to the intestinal tumor, as regards the peculiarity of its attachment and the openness of the blood vessels. Myomata are often very vascular.

Dr. E. W. SAWYER: As a still further emphasis of the condition of this patient, I want to say that she filled a difficult clerical position, involving a good deal of labor, up to the day previous to her death. I have seen her in life for the last ten years, and knew her to be industrious and a healthy appearing woman.

Professor C. T. PARKES: It might be proper to suggest the idea that this was an angioma. The partial description that has been given would call my attention to growths of that character: its extreme vascularity; the size of the vessels entering into it; its position, differing in this respect from myoma. The tissue about the walls might be connective tissue, showing some evidence of muscular fibre.

I speak merely from my experience. I have seen quite a number of myomata, but never saw any that showed the peculiarities of this specimen. It might have developed, as suggested by Dr. Dudley, in some other place, this being a foreign position. As to its attachment, I think it would be in reason to say that it might show muscular fibre if it was an outgrowth from the intestine. I would not say, of course, that it is not a myoma.

Professor A. REEVES JACKSON: It seems remarkable that this should be a myomatous tumor when so little muscular structure can be found as a basis in the intestine. The case, too, is interesting and remarkable in its history, from which we learn that the woman had degeneration of long standing of a portion of the liver; that there were adhesions of the intestines to the abdominal wall, indicating the former existence of peritonitis; that there was a fibroma of the uterus; and yet, despite all these diseases, the patient was in good health up to a recent date. All this is very remarkable. I know that women can live and seem fairly healthy with a good deal of disease present, but such an amount as was present in this instance seems quite inconsistent with a condition of *good* health. It is exceedingly important that this specimen should be examined microscopically, because its nature must be of very great interest to the pathologist.

On motion, the subject was referred for further investigation of the tumor to a committee, consisting of Drs. Fenger, Mercer, and Sawyer, and their report is to be read at the January meeting.

Professor E. C. DUDLEY reported

A CASE OF VAGINAL HYSTERECTOMY FOR SARCOMA UTERI.

The patient, a multipara, 62 years of age, came to me from Dr. Sibree, of Sturgeon Bay, Wis. Dr. Sibree, several months before, had removed a soft, friable mass filling the uterus and vagina. When the case came to my clinic at St. Luke's Hospital two months ago, the tumor, which had returned, enormously distended the uterus and vagina. Under ether, the operation previously performed by Dr. Sibree was repeated, and a soft, friable mass, weighing not less than two pounds, was removed. The tumor was attached by a short pedicle, about three-fourths of an inch in diameter, to the left side of the uterus, about on a level with the os internum. The specimen was examined by Dr. Wing, who pro-

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nounced it to be a sarcoma; I therefore determined to remove the uterus per vaginam, which was done three weeks ago to-day.

The case is remarkable and interesting. Remarkable, because sarcoma of the uterus is a somewhat rare disease, the number of cases on record being less than one hundred. Interesting, because a method of operation was employed which has heretofore not been very much used—the method of Péan, *i. e.*, hemostasis was secured entirely by means of pressure-forceps, no sutures or ligatures having been used. The cervical canal was first stuffed with absorbent cotton, and closed with a single suture, which was passed through the anterior and posterior lips. This was done in order to prevent any of the contents of the uterus from coming in contact with the perineum in case it was found necessary to turn the cervix into the pelvic cavity. The cervix, seized with strong lock vulsellum forceps, was drawn to the vulva, and an incision was made with scissors entirely around the cervix at the utero-vaginal attachment; with the finger the post-cervical structures were torn away from the cervix, keeping close to the uterus until the cul-de-sac of Douglas was reached; with two fingers in the cul-de-sac of Douglas, it was easy to enlarge this opening by tearing, until I had reached the region of the broad ligament on either side; I then attempted to divide anteriorly in the same way, but, being solicitous about invading the bladder, I kept so close to the uterus as actually to tear up a layer of the muscular structures. I had carried this process beyond the vesico-uterine attachments, indeed almost to the fundus, before I discovered that I must be beyond the region of the bladder. I did not at once enter the anterior cul-de-sac, but, taking a pressure-forceps with long blade in the right hand, I passed the index finger of the left through the posterior opening, and hooked the point of the finger around the left broad ligament; then, with the lower blade of the forceps in the posterior opening, I punched through to the finger tip with the other blade, and locked the forceps, thus securing the left broad ligament. The right broad ligament was secured in the same way, and the utero-vesical attachment severed with the scissors and the uterus removed. Upon putting the forceps upon the right broad ligament, and finding that the disease had extended through the uterine wall on that side and involved the uterine end of the right broad ligament, I pulled the ligament out and put on another pair of forceps back of those originally used. These forceps included the ovary and Fallopian tube on that side, and I hope all the disease.

The only difficulty in this operation was in consequence of extensive adhesions of the uterus posteriorly to the small intestine. At least twenty minutes were consumed in carefully breaking up these adhesions. The right ovary and tube came down and were secured in the grasp of the forceps, but, the patient having passed the menopause, the left were not removed. Several bleeding points anterior and posterior to the uterus were secured by means of ordinary pressure-forceps, all of which were left in the vagina.

Instead of closing the abdominal wound with sutures, the peritoneal edges, anteriorly and posteriorly, were caught at two points with lock-forceps, so that in reality the peritoneal wound was closed at these points, leaving space enough between the forceps for drainage. All the forceps, except those on the broad ligaments, were removed in twenty-four hours; these were removed at the end of forty-eight hours. It would possibly be safe to remove even the forceps from the broad ligaments in twenty-four hours, but leaving them forty-eight hours is an additional safeguard, and insures more prompt separation of the necrosed tissues within their grasp.

The patient had no bad symptom until the fourth day after the operation, when she developed a slightly elevated temperature and a pulse of 140, very weak and

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almost like the pulse of collapse; but with a moderate amount of stimulation, circulation greatly improved, and was again normal in twenty-four hours. It is now three weeks since the operation; she has had no further trouble and is sitting up. I learned after this trouble with the circulation what I had not recognized before and what would have deterred me from operating had I known it, that the patient had a fatty heart.

I think this method of removing the uterus will be generally adopted. The operation in this case lasted forty minutes. If it had not been for the adhesions it could have been done in twenty minutes without difficulty.

This operation may have a wider field than vaginal hysterectomy; I have determined that the next case I have of uterine myoma, in which supra-vaginal hysterectomy would ordinarily be performed, to open the abdomen, lift the tumor out through the abdominal wound, and then, instead of using the serre-nœud, to secure the broad ligaments by means of lock-forceps in the vagina. It would probably be easy, by having the index and middle fingers in the pelvic-cavity, one on either side of the broad ligament as a guide, to force the blades of the forceps through close to the uterus on either side of the ligament to the finger tips, and then, having secured both ligaments, sever the anterior and posterior uterine attachments. The peritoneal edges of the vaginal wound might then be closed with a continuous catgut suture, or seized with lock-forceps in the vagina, as already described. This method of performing hysterectomy for myoma when the tumor is too large to be delivered through the vagina is worth trying; it would enable the operator to dispense with all extra-peritoneal methods of hemostasis, and might afford all the advantages which belong to intra-peritoneal hemostasis for ovariotomy.

The PRESIDENT reported

A CASE OF VAGINAL HYSTERECTOMY,

and exhibited specimen.

Miss P. is a virgin, 57 years of age; ceased menstruating over ten years ago. About eight months ago she had a slight hæmorrhage from the uterus, and for five months before the operation had been bleeding (sometimes profusely) most of the time. She had been bedridden for five weeks, suffered frequently with severe pain in the lower part of the abdomen, and was the most waxy, anæmic looking person I remember to have seen. Her pulse ranged from 100 to 120. Her evening temperature, from the normal in the morning, ran up to 101° F., and sometimes higher upon the few evenings before the operation. When not bleeding she had an offensive vaginal discharge. She was subject to daily hysterical attacks, in which she and her friends feared she might die. A loud anæmic cardiac murmur could be heard. Vaginal indagation revealed a friable, vascular mass about the size of a small hen's egg, projecting from the cervix into the vagina, and continuous with the posterior lip. A piece taken from the lower end was examined and pronounced papilloma. I had considered it cancer and had contemplated hysterectomy, but felt relieved at the diagnosis, because the operation would have been long and difficult on account of the virgin and senile condition of the vagina and perineum, and the success would have been doubtful by reason of the extreme anæmia and nervous prostration. I also feared she would not bear anæsthesia well for the necessary length of time.

She was anæsthetized at 9 a. m., December 7, for the purpose of curetting, but the posterior wall of the cervix as far as the internal os was found so degenerated that a complete removal was considered impossible without breaking into the cul-de-sac of Douglas. The posterior vaginal wall was also infiltrated behind the cervix. I therefore resolved to take out the uterus, and did so at 1.30 p. m. The method I employed proved so successful and seemed so well adapted to her case that I think it worth while to mention it and

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advise it for cases presenting similar difficulties.

After a thorough disinfection of the parts, I introduced suture of juniper catgut around the vaginal fornices so as to make a circle of ligatures. I made a bloodless incision inside of the circle, commencing in front and separating the bladder and the broad ligaments for a short distance at the sides before introducing the posterior sutures, completing the circular incision posteriorly, and opening the peritoneal cavity. Scarcely half an ounce of blood was lost. After opening the cul-de-sac its entire width, a pair of hemostatic forceps was placed on the left sacro-uterine and base of the left broad ligament, and the uterus cut loose on that side as far as the forceps reached. The manœuvre was then repeated on the other side. Then another pair of forceps was placed on each side just above the first, and the tissues severed as high as they extended. A third pair on each side included the Fallopian tubes, and enabled me to cut out the uterus with the loss of less than an ounce of blood except that which had oozed from the diseased cervix. Some iodoform gauze was stuffed in between the forceps. The forceps were removed at the end of twenty-eight hours, with great distress to the patient and followed by a temporary rise of temperature from 99⅘° to 100⅘° F. The temperature went down, however, and did not rise that high again until the beginning of the fifth day, when it again went up to 100⅘° F., but subsided upon removal of the tampon, which had become offensive. She turned on her side at the beginning of the fourth day. The bowels were moved on the fifth day by a Seidlitz powder. After the removal of the iodoform gauze on the beginning of the fifth day, vaginal douches, with a tube for the return flow, were used twice a day. After the sixth day they were carbolized.

Having performed the operation both ways, viz., with and without hemostatic forceps, I feel justified in asserting that ligatures are better for cases in which the size of the vagina and mobility of the uterus allow of their application without too much loss of time, for there is less bruising of the broad ligaments and less sloughing afterward. They may be left long and used instead of sutures to draw the stumps together over the vaginal opening. For cases in which time is an important element, and the broad ligaments can not be rapidly ligated, the forceps are preferable. In the hands of the beginner they are safer, because they may be applied with less handling and exposure of the peritoneum, and are not liable to be followed by hæmorrhage. Ligation of the vaginal walls, before cutting, can be done so quickly and easily that it is a desirable procedure in all cases.

The growth, as you see, has extended as high as the internal os; with the main part of it taken off, it looks like an epithelioma of the cervix. The uterus is small in size. Sarcoma, originating in the cervix, would seem to be a rare occurrence, and this one case is, as far as I can determine, the thirteenth one recorded. One has been recorded by G. Veit (*Handbuch der Speciellen Pathologie*, etc., von Virchow); one by Scanzoni (*Lehrbuch der weiblichen Sexualorgane*); one by Kunert (*Archiv für Gynekologie*, Bd. VI, p. 113); one by Leopold (*Archiv f. Gyn.*, Bd. VI, p. 493); one by Grenser (*Archiv f. Gyn.*, Bd. VI, p. 501); two by Spiegelberg (*Archiv f. Gyn.*, Bd. XIV, p. 178, and Bd. XV, p. 437); one by Rein (*Archiv f. Gyn.*, Bd. XV, p. 187); one by Winckler (*Archiv f. Gyn.*, Bd. XXI, p. 309); one by Schwartz (*Beerman, Inaug. Diss.*, Göttingen, 1876); one by Zweifel (*Centralblat für Gyn.*, 1884); Hunter (*Am. Journal of Obstetrics*, Vol. XVII, p. 523), and this one. Some of these were not primary sarcomas, but were developed secondary to other growths, such as papilloma, fibroma, etc.

REPORT OF PATHOLOGIST.

Microscopical Examination of the Cervix.—On the surface the growth presents

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the structure of papilloma, *i. e.*, villous projections consisting of a connective-tissue stroma covered over completely by several layers of ovoid cells. Upon the surface of these there is a single layer of columnar epithelium.

In the specimen this has been stripped off on part of the surface.

The columnar epithelium is not as tall and less delicate than that of the normal mucosa.

Normal Mucosa.—At the base of these villi the tissues are considerably altered. They consist largely of granulation cells. The normal glandular elements have quite disappeared in some parts; in others they are greatly modified, the cells lining the follicles being irregular, ovoid, or spindle-shaped.

Many of the glands are quite replaced by sarcoma corpuscles.

In some points of the specimen there occurs a delicate network of branching cells, presenting the characteristic appearance of myxoma. These portions are considerably softer than the surrounding structure.

Diagnosis.—Papilloma at surface.

Myxo-sarcoma at base.

The disease was probably primarily simple papilloma, and is now in the stage of transition to sarcoma.

MARIE J. MERGLER.

Professor J. H. ETHERIDGE: I understood Dr. Byford to say that a portion of the growth involved the vagina also, and I would like to ask him if he could follow up the broad ligament well enough to find if there was any involvement of that structure.

Dr. BYFORD: I did follow it up and put on the forceps.

Professor ETHERIDGE: I saw a case about two weeks ago that was very interesting and instructive to me. It was the removal of the uterus for cancer of the cervix. Upon examination, at first we thought we would not take it out, but as the whole cervix was involved and it had spread over upon the sides of the vagina, the left side a very little and considerably upon the right side, it was concluded to go on and do the operation. The operator freed the cervix from the vagina and then commenced the peeling up process; the broad ligaments were exposed, and the forceps put on, and the uterus cut away. In the left broad ligament, throughout its whole extent to the pelvic wall, there were nodular enlargements, showing that the broad ligament itself was involved, and that, too, upon the side in which there was the least encroachment of the vagina; on the right side there was no involvement of the broad ligament. There were eight or nine forceps left in the vagina, which were removed at the end of forty-eight hours without any trouble. She has recovered from the operation nicely.

I have often wondered how the broad ligament appeared when infiltrated with cancerous material, and I think now that I know.

If the case Dr. Dudley reported is the one I saw, and he did not speak of one thing, I would like to speak of it, and that was a clever bit of ingenuity on the part of a clever operator in retroflexing the uterus. If I remember rightly, he attempted to push it down and draw it down from beneath without avail, and then, by taking a pair of vulsellum forceps, he grasped the uterus just above the vaginal attachment and drew it down, then took another forceps and drew it down a little more, then another, and so on, and in that way got the uterus down easily; which impresses one who has had trouble in getting the uterus down within reach.

Since the October meeting, at which a paper of mine on this subject was read by title, another case has passed through my hands which I have not reported to this society. It was a case in which there was a development of a small fibroid tumor in the posterior uterine wall. All attempts at retroflexing or retroverting the uterus were unavailing, and it had to be removed by detaching the broad ligaments which the uterus turned upward. The patient has

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gone along without trouble and has made a complete recovery. The uterus was removed for incoercible hæmorrhage. Everything else had been tried—scraping, stimulating applications, ergot, etc.—and the operation which was expected to be performed was the removal of the ovaries. But as I had had the experience of removing two pairs of ovaries for bleeding fibroids, and they kept on bleeding, I explained to her the difference between the removal of the uterus and the ovaries, and she finally accepted the removal of the uterus.

I believe one of the greatest advantages of the forceps over the ligature is the superior facility for free drainage. All fluids will run down through the opening in the vagina left by the forceps in a perfect manner, and there is no danger of the fluids remaining in the peritoneal cavity by the closing of the top of the vagina, which is speedily brought about. After the patient is put to bed it is but a few hours before we have a closed cavity in which fluids may decompose and septic peritonitis ensue, unless effective drainage, such as the forceps afford, be used. I think that one advantage over the ligature is enough to induce every operator to use the forceps.

Professor JACKSON: It occurred to me, in examining this specimen, that it was not necessary to remove the entire uterus. High amputation of the cervix would have removed all the disease and would have lessened the danger to the patient.

I want to refer to a point in Dr. Dudley's remarks with reference to the attachment of the sarcoma to the uterus by a pedicle. I desire to ask whether that is a usual method of attachment of a sarcoma? In the cases of uterine sarcoma that I have seen the disease commenced on a flat surface—the attachment was sessile. I once saw a case which I at first supposed was one of sarcoma, but subsequent examination with the microscope determined that it was not a sarcoma but a degenerated fibrous polypus.

These microscopic examinations of malignant disease, by the way, are not always reliable. In my own experience I have received three widely different reports, all made by competent persons and from the same specimen, so that I must confess I have less confidence in the microscope as a diagnostic instrument than I formerly had. I regret this very much because, in many cases, we depend almost entirely on such investigations to determine our diagnosis and treatment.

Dr. PARKES: I was exceedingly interested in Dr. Dudley's case, and especially in the manner of securing the broad ligaments by means of forceps. I had the pleasure of witnessing the use of these forceps by the person who first invented them, Péan, of Paris. In 1883 I did the first operation that has come under my care for removal of the uterus per vaginam by this method. In 1886 I did it again, and during the early part of this year I removed three uteri, and in each of them I employed the method that has been described this evening, the use of the snap-forceps in controlling the broad ligaments, instead of ligatures. After listening to a report of similar cases by Dr. Etheridge, I remarked that I did not see why, in this method, the uterus should be retroverted; that so far as my experience went I found no difficulty, after the division was made in the cul-de-sac of Douglas, in reaching the top of the broad ligaments with my finger, and found no difficulty in severing the attachment, and had no subsequent difficulty from hæmorrhage. I can very well see that occasional cases will be met with where it will be difficult, if not impossible, to reach the top of the broad ligament so as to be sure that every portion is included in the grasp of the forceps, as in Dr. Byford's case, and in another case I saw where the uterus had in its posterior wall a large tumor, and where it was with great difficulty removed. In these instances it may be necessary to reverse the uterus. The objection to reversal is that it twists the broad ligaments, and we

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know that any instrument used for pressure acts better the thinner the tissue that is engaged in the forceps.

It is only lately that very much has been said in the journals about the use of forceps instead of ligatures. Within the last two years an article has appeared in the journals by a French gentleman who has reported some forty cases operated upon in this way. The objection that comes to my mind in the use of these forceps in operation for myomata of the uterus and large size, is that in the cases I have seen the broad ligament has been carried up with the uterus to such height above the top of the vaginal wall that no forceps I have seen would embrace all the tissues. Still the plan would be good; abdominal section would enable one to tie the broad ligaments half way down to the uterine arteries, and then the forceps could be used.

Professor E. C. DUDLEY, in closing the discussion, said: Dr. Jackson has asked for my experience relative to the question whether sarcoma is apt to be attached to the uterine wall by a pedicle. Sarcoma of the uterus is too rare to permit any one operator to speak from experience. It is, however, true that sarcoma may be attached to the uterine wall by a broad or narrow pedicle; on the other hand, as Dr. Jackson says, it may be intramural. This tumor had a very short pedicle; the growth filled and distended the entire uterus; there was perhaps a pound of sarcomatous tumor in the uterus at the time of my first operation, three or four weeks before the second.

I have more confidence in the accuracy of pathological observations through the microscope than Dr. Jackson, never having had occasion to question the diagnosis of a pathologist, although, like Dr. Jackson, I have frequently employed two or three microscopists to examine the same specimen independently, but I have always taken care to employ good pathologists, of whom Dr. Wing is one.

The objection of Dr. Parkes against the operation which I have indicated for removing myomata and securing the broad ligaments by means of lock-forceps in the vagina would not render the procedure impracticable. The broad ligaments could easily be stripped from the uterus until it became possible to include them in the grasp of the forceps. For this operation, it would be well to have, in addition to the ordinary forceps, four pairs of forceps with very long blades, two of which could be fastened on either broad ligament close to the uterus, and the ligaments could be divided between them; then the ordinary forceps might be passed through the vagina with their blades on either side of the remaining portions of the broad ligaments. After removing the uterus, the entire broad ligament on either side could then be grasped in a single pair of vaginal forceps, which should have longer and stronger blades than for ordinary vaginal hysterectomy on account of the great hypertrophy of the ligaments.

Dr. Byford considers the method of Péan inferior to that of the ligature for certain cases in vaginal hysterectomy. Péan's method seems to me better and safer for all cases. The hemostasis can be more quickly secured by the forceps than by the ligature. A single pair of forceps will secure a mass which would require several ligatures. The hemostasis is almost absolute when secured by the forceps, but is uncertain with the ligature. After the forceps have been left on for forty-eight hours, there is necrosis of that portion of the ligaments within their grasp and we thereby get rid of it; not so with the ligature mass, it must remain as a slough, sometimes for many days. Moreover, after a ligament is found to be involved in the disease for which the uterus is being removed, it may be easily drawn out by means of the forceps first applied, the surrounding tissues stripped off, and another forceps applied back of the first ones. This would be very difficult, sometimes impossible, with the ligature. The mortality of

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this operation may perhaps be reduced as low or lower than that of ordinary ovariotomy. It is certainly an easier operation than ovariotomy with adhesions. The hemostatic forceps have indeed changed a very formidable operation to a very simple one.

Retroverting or inverting the uterus through the opening posterior or anterior to the uterus and bringing the fundus into the vagina is objectionable. First, some of the contents of the uterus may get into the peritoneal cavity and make trouble. Second, the body of the uterus in the vagina fills it so full as to leave very little space in which to complete the operation. It will always be well, however, as a precaution against infection of the abdomen from the malignant disease, to tampon the uterine canal with cotton and close the os externum with a suture, so that if it become necessary to retrovert or antevert the uterus nothing can get out. Iodoform gauze was used as a vaginal tampon in this case; when removed in twenty-four hours, it was found to be fœtid, and therefore seemed rather an element of danger than of safety. It also interfered with drainage. If used at all, it should be placed between the forceps and the vesico-vaginal septum, where it would not be so liable to obstruct drainage as if placed between the forceps and the recto-vaginal wall. It would always seem desirable to close the peritoneal edges of the wound with lock-forceps, as was done in this case. They did not close the wound enough to prevent drainage, and they do protect the patient against the danger of protrusion of abdominal viscera in case of severe retching, vomiting, or coughing.

Dr. H. T. Byford: I cannot agree with the last speaker that iodoform gauze interferes with drainage and favors decomposition. As the vagina cannot well be douched during the first few days, the secretions must accumulate until forced or drawn up through the vaginal entrance, which, in the dorsal decubitus, is the highest end of the vaginal canal. By placing a small roll of iodoform gauze well up against the stumps (drawn down by the ligatures), and then stuffing in a long narrow strip so as to fill the vaginal canal loosely and extend out to a dry piece of gauze between the labiæ, we can drain off the fluid portion of the exudations by capillary drainage, promote hemostasis, prevent prolapse of the intestines, support the base of the bladder, and keep the stumps stationary until an exudate has fixed them and closed the peritoneal cavity.

As to the advantage of the forceps in enabling us to remove more of the broad ligaments, I think that the less of the broad ligament removed the better. If the disease has extended into the ligament, the operation should not be performed. I think that the proposed combination of the abdominal and vaginal methods by the application of the hemostatic forceps from the vagina is more complicated, more difficult, and more dangerous than supra-vaginal amputation or abdominal hysterectomy. Hemostasis can be secured without it. In case the cervix must, on account of disease, be removed with the uterus through the abdomen, then the forceps might be applied from below, but the mortality would, in the nature of the case, be greater than that of vaginal hysterectomy or supra-vaginal amputation.

In answer to the criticism that a high amputation of the cervix would have been preferable, I will say that the cervical wall was so deeply invaded that the cul-da-sac would have necessarily been opened. Had it not been opened there was not enough vaginal wall to cover the raw surfaces, and the hæmorrhage that would have occurred, and the suppuration afterward, whether the cautery had been applied or not, would have been much more liable to kill this feeble patient than hysterectomy. The septicemic symptoms disappeared in a day, and the anæmia is daily diminishing. In some cases vaginal hysterectomy is the safer operation.

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THE CHICAGO PATHOLOGICAL SOCIETY.

STATED MEETING, MARCH 12.

I. N. DANFORTH, M. D., President, in the Chair.

The session opened with a discussion of the paper, by Dr. J. B. Murphy, on "Gunshot Wounds of the Abdomen," which was read at the last meeting, and which appeared in the March number of the *Medical Journal and Examiner*.

Professor A. E. HOADLEY, in opening the discussion, said: The cases reported in the paper are of unusual interest, for they occurred in practically a new field in surgery. Until very recently laparotomy for gunshot wounds of the abdomen was not recognized as a justifiable operation, but now operations upon nearly all the abdominal organs have been demonstrated to be practicable. It is only within the last four or five years that operations upon the abdomen for the treatment of penetrating gunshot wounds have been practiced. The paper in itself, if there were no other evidence in favor of such operative interference, would seem to furnish facts sufficient to justify it.

The author of the paper reports four cases, in three of which there were wounds of the intestine in which there would have been, in time, more or less escape of fæcal matter into the peritoneal cavity, which would have set up fatal septic peritonitis. In none of those cases did peritonitis, as a complication, occur.

It is not my belief that it is necessary to pare the edges of small wounds where a bullet has simply traversed the intestinal wall, or that it is requisite to suture the mucous membrane. The mucous membrane of the intestine becomes ectropic; it almost completely occludes the wound so as to prevent, temporarily, the escape of fæcal matter. It is so redundant that suturing is unnecessary. If the peritoneal surfaces be brought together and sutured, that will be quite sufficient to seal the wound, and the mucous surfaces will take care of themselves.

In small wounds of the intestine, it will be sufficient to invert the mucous membrane, and, by continued suture, approximate the serous surfaces over the wound. These surfaces immediately become glued together, and the suture is soon buried in lymph. It will be found quite secure, and no doubt result in permanent and perfect union. The greatest objection to so many sutures, and such close coaptation of the wound, is the time required for the operation. Two hours were occupied in one of the cases reported, which is certainly a source of danger to the patient, who is already suffering from shock as a result of the injury. An ordinary bullet hole, made by a bullet of 32 or 38 calibre, through the intestine can be closed with four continuous catgut sutures, which are quite sufficient for all practical purposes. It can be done rapidly; it shortens the time, and consequently the patient is spared risk of additional shock.

Where blood clots exist of large size, whether from the mesentery or from the omentum, it is an easy matter to get them out of the meshes of the omentum and mesentery; but it happens sometimes in cases of gunshot wounds of the abdomen that there are a large number of blood clots, which vary in size from the head of a pin to that of the end of a person's finger. To get rid of them all would necessitate a long and tedious operation, and in doing it the peritoneum would probably thereby be wounded in many places. Large clots should be removed, but small ones should not be disturbed, because they will be absorbed without detriment to the case.

With reference to the irrigation of the peritoneal cavity, I would say that I consider a one or one-and-one-half per cent. solution of carbolic acid powerless to destroy the septic germs that may have found entrance into the peritoneal cavity from the intestinal canal; therefore it

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should be excluded. Boracic acid, while it is much more appropriate, is open to the same objection, that it is incapable of accomplishing the end for which it is used. We can accomplish practically nothing by the use of these disinfectants. The chief thing to be done is to wash out the peritoneal cavity with large and copious douches of warm (plain) water, sterilized, if practicable, and thus flood out what septic material may be present. We can use warm-water douches in these cases *ad libitum*. The water ought to be at a temperature of three or four degrees higher than the temperature of the body.

With regard to suturing the abdominal wound, while there is no practical objection to closing the wound with a double row of sutures, still it is open to criticism, for the reason that it takes up too much time and the results are no better. The more rapidly these abdominal operations can be performed the more successful will be the result. I am convinced that in all cases of perforating gunshot wounds of the abdomen it is the surgeon's duty to explore the abdominal cavity immediately, and not to wait for special symptoms to manifest themselves. In rare cases it might happen that the abdomen would be opened where the patient could have got well without it, but such cases are rare. In every case where the bullet can be traced in the direction of the abdominal cavity the abdomen should be opened early in order to find out what mischief has been done, and if it is opened under strict antiseptic precautions the patient's chances will probably not have been jeopardized by the operation.

I am in favor of opening the abdomen by incision in the median line, where it can be made available, for we can make a larger wound in that region with less shock to the patient than in any other, and have better command over the contents.

I have only one case to refer to in my own practice of treating gunshot wounds of the abdomen. The patient received a 32-calibre bullet about two inches to the left and one above the umbilicus. It passed through the abdominal cavity into the back, made three wounds in the intestine, traversed the omentum, and made two wounds in the mesentery. The wounds were closed with three or four continued superficial catgut sutures, including the peritoneal and muscular coats only. The mesenteric wound was not touched, as there was no bleeding at that point. The hole was half an inch in diameter, and I failed to see wherein we could improve the condition of things. If I had sutured it, I would have embarrassed some blood vessels on their way to the intestine. I thought it best to let it alone. The abdominal cavity was washed out with warm water. There was some escape of fæcal matter. There were no evidences of inflammation at the autopsy. The patient lived three and one-half days after the operation, and then died from continued shock. He had lost a large quantity of blood at the time of the injury. He had no pain after the operation; no tympanitis; no distressing symptoms; but continued to vomit at intervals up to the time of his death. Autopsy showed that the wounds were all perfectly closed and smooth; the stitches were all buried, and there was no inflammation in any portion of the peritoneal surfaces.

Dr. A. B. STRONG: The writer of the paper is to be congratulated on his success in saving two out of four cases operated on for gunshot perforation of the abdominal cavity. How best to close the wounded intestines is a matter of great practical importance, and one that surgeons are not at all fully agreed upon. It would seem that that manner of procedure by which the operator could most speedily and successfully close both the visceral wounds and abdominal cavity would be the preferable one. With prolonged exposure and manipulation one can hardly avoid increasing the amount of shock always present, and thus lessen the chances of success. It has been found that when the ragged edge of the wound is

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turned into the gut, and the serous surface with its subjacent muscular layer closed over it, the parts speedily and firmly unite. I do not see the necessity, then, of paring the wound and making two layers of sutures; neither do I see the advantage of closing the abdominal opening by uniting the peritoneum and other structures separately, when it can be done just as well, and at a saving of time, by the suture including at once all its layers. However, Dr. Murphy has had remarkable success, and it may be that the plan he has followed has advantages over the one that would seem to me to be the best. When we have unmistakable evidence that the ball has entered the abdominal cavity, I think, in the majority of cases, it is our duty to make an exploratory incision to ascertain exactly what damage has been done, and also to close the wounds in the simplest, safest, and most expeditious way at our command.

My experience in laparatomy for gunshot wounds of the intestine is limited to one case, where the ball entered on the left side about one and one-half inches above the anterior superior spine of the ilium, and passed downward into the pelvis. The case was not seen until twenty-four hours afterward; the patient was in collapse; the abdomen literally full of blood, which was oozing from the wound. The patient died before a large vein behind the peritoneum in the pelvis could be secured.

While speaking of these injuries, I wish to place on record a case of gunshot wound of the abdomen, in a girl fourteen years of age, that came under my observation twelve years ago. The ball, at short range, entered the abdomen two inches to the right of the median line and two inches below the navel. There was immediate paresis of the right leg, showing that the lumbar plexus had been injured. There was peritonitis. An expectant plan of treatment was followed and she ultimately recovered. With the surgical light of the present day this case would have been a proper one for laparotomy.

Professor HENRY M. LYMAN read a paper on "Alcoholism and Morphinism."

Just as the protracted use of alcohol finally produces chronic alcoholism, so the habitual consumption of morphine brings about a condition of chronic morphinism. Lancereaux, of Paris, has recently described the symptoms of this disease, which may be usually recognized about five or six months after the commencement of the habitual use of morphine. The victim finds, perhaps to his own surprise, that he can not do without the drug. Disorders of digestion soon appear; there is loss of appetite and of flesh; the countenance assumes a yellowish, earthy tint; the eyes grow dull, and only recover their vivacity after a fresh dose of the drug. The skin becomes dry; the muscles dwindle, and sometimes become œdematous. The patient now suffers with sleeplessness, or with distressing dreams and nightmare; there is loss of memory, and enfeeblement of the moral sense, though the intellectual faculties are still preserved. There are subjective pains experienced in all parts of the peripheral nervous system; sensations of pricking and of crawling, sufferings analogous to the osteoscopic pains of syphilis. General sensibility is also greatly modified—hyperæsthesia in certain regions with anæsthesia in others. Usually, there is an enfeeblement of the tendinous reflexes, though the plantar reflex is often exaggerated. The universal disturbance of nutrition is further illustrated by the rapid decay or loss of the teeth, and by the early development of baldness. The special senses are not specially injured, but sexual appetite is abolished; the female becomes sterile, and ceases to menstruate. According to Levinstein her entire uterine apparatus may become atrophied.

Between chronic alcoholism and chronic morphinism there are many points of resemblance; but Averbeck remarks that the alkaloid narcotics attack the nervous system first, and through its ruin destroy the general health, while alcohol first affects

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the organs of vegetative life, and through their destruction the nervous system is wrecked. In both forms of chronic intoxication, the frightful dreams, the disturbances of sensation, even the paroxysm of delirium, are quite similar. But in the digestive organs the symptoms of irritation and inflammation are more severe in the victim of alcohol. The morphine eater, furthermore, does not exhibit those fibrillary tremors of the lips that are so commonly observed in chronic alcoholism. The drunkard may grow fat, but the morphine victim manifests a repugnance for flesh food, and grows thin. Both diseases predispose the patient to pulmonary tuberculosis. A tendency to the formation of abscesses in the subcutaneous cellular tissue is usually encountered in chronic victims of morphinism, due to the enfeebled health of the patient, and to the fact that the drug is now so frequently introduced by the use of the hypodermic syringe.

Morphinism is most common among the higher classes. Of one hundred cases studied by Levinstein thirty-two were physicians, females, neurotic males, apothecaries, and hospital attendants; all whose daily occupation brings them in contact with sick persons and drugs are the most likely to fall into the habit of morphine-taking. Ludovic Jammes communicates to the Institute of France his observations in Cochin China and Cambodia, where he has seen cats, dogs, and monkeys intoxicating themselves with the smoke of their masters' pipes. These animals present a melancholy aspect, and they sleep much more than other healthy creatures. They seem to experience the same effects that are produced by opium upon the human species.

The experiments of Mme. Edwards and M. Pilliet, recently laid before the Biological Society of Paris, show that the daily hypodermic injection of morphine will produce, in animals thus treated, a fatty degeneration of the liver, with atrophy of the cortical cells, and development of granular masses along the border between the gray matter and the white substance of the cerebrum.

Dr. Henry Averbeck has recently contributed to the pages of the *Deutsche Medizinal Zeitung* a valuable article on the "acute neurasthenia" produced by sudden abstinence from the habitual use of morphine. He recognizes five grades of intensity in the toxic effects of the drug: (1) The period of excitement, which may be likened to the effect of good wine upon one who is not accustomed to its use; (2) the time of pleasure, so far as that can be obtained in a state of Nirvana-like repose, without joy or suffering; (3) the period of tolerance; now, the poison must be taken in continually increasing doses in order to procure any pleasure, or to ward off the terrible misery consequent upon partial abstinence; (4) symptoms of absolute poisoning; increasing doses avail nothing to produce pleasurable excitement; even the usual quantity of the drug causes nothing but suffering, with all the symptoms of chronic intoxication of the whole body; (5) death from the effects of the poison.

So profound is the prostration of the sufferer during the period of neurasthenia that his treatment should only be undertaken under the immediate presence and supervision of a physician. For this purpose a properly appointed hospital, or retreat, furnishes the best opportunity. Female nurses are preferable to male, on account of their greater gentleness, persuasiveness, and persistence in dealing with the sufferer.

About five hours after the last dose the storm of abstinence begins. This exhibits its greatest severity in those patients who have habitually consumed eight grains, or more, each day. The sufferer begs for his customary stimulant, weeps and howls if it is refused. He yawns and sneezes many times in succession; he is restless and full of pain. This period of distress continues from three to five days. At first the functions of the brain are thoroughly prostrated for several hours; then symptoms of spinal exhaustion appear. Coals of fire and

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streams of molten metal seem to ooze along the spine from the head to the sacrum. Respiration is hurried (100 times a minute); the pulse may beat 150 times a minute. During the third and fourth hours, the ganglionic nervous system begins to take part in the disturbance. The throat burns; the stomach feels as if wounded or scorched. Retching, vomiting, and diarrhœa follow. During all these hours the patient tries every form of movement in search of ease, but all in vain. Only during the utter exhaustion that succeeds to a fit of vomiting does he obtain momentary relief. After five to eight hours of such misery the storm subsides. The patient, in ninety-nine cases out of every hundred can only call for morphine. The phenomena of hysteria, of hypochondria, and of a general mental derangement will now appear. Personality seems lost; the majority of such subjects are now completely irresponsible. The patient is now in the stage of complete prostration. If he attempt to write, his hand will shake; letters and even whole words will be omitted, very much like what may be observed at the commencement of progressive paresis. The pupils are dilated, there may be double vision; the senses of smell and of hearing are abnormally exalted. Hyperæsthesia, rather than paræsthesia, is the characteristic condition during abstinence from morphine. The muscular apparatus is utterly powerless; the patient feels best in the horizontal position. The secretory organs are now in a state of great activity; only the sexual organs remain impotent. The urine frequently contains albumen or, possibly, sugar. As a consequence of the irritable weakness of every part of the body, every impression upon the sensory structure of the entire organization gives rise to a sensation of pain. This tremendous enfeeblement of the nervous system brings the patient to the verge of dangerous, of fatal, collapse. To avert this, alcoholic stimulants, especially champagne, are most useful. A return to small doses of morphine, hypodermically given, may become imperatively necessary. The danger of collapse is most to be feared from the third to the sixth day of abstinence. It is most likely to occur in cases of fatty degeneration of the heart, induced by the conjoined abuse of alcohol and morphine.

After a succession of paroxysms, like that above described, at the end of the fourth or fifth day, the first indications of convalescence appear. Appetite for food begins to revive. The greatest dangers and sufferings are past; but the patient is sleepless, enfeebled, and depressed in spirit. The nervous system is weak and irritable.

The prognosis is good so far as recovery from acute neurasthenia is concerned, but the dangers of relapse into the opium-habit are very great. Among physicians who have contracted the habit relapses occur in 90 per centum, among officers, in 75 per centum, of the cases.

The morphine habit can only be cured by total abandonment of the drug. The use of cocaine in its place is a great mistake. The only choice lies between two methods: Shall we abruptly terminate the use of morphine, or shall we proceed by gradual diminution of the daily dose? It seems more physiological, in dealing with a habit that has grown out of gradually increasing doses of the drug, to escape from its grasp by a gradual reversal of the process. It also seems so much more merciful and humane to remove the dog's tail inch by inch each day, in hopes that the good creature may thus become tolerant of the pain. The best way consists in the adoption of a modification of the method by immediate abstinence. The patient who has been accustomed to the daily consumption of fifteen grains must be reduced to a tenth of this quantity, and this tenth must be divided into three doses at intervals of eight hours. After the eighth day the amount should be reduced to a hundredth part of the original dose. The phenomena of acute neurasthenia will now appear. If collapse is threatened, small doses, varying from a fortieth to a tenth of

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the original, may be administered once or twice during the twenty-four hours, especially at bedtime, until the worst five or six days are spent. Good wine, champagne by preference, must be given freely. Levinstein's method of giving chloral hydrate in half-drachm doses, with about a quarter of a grain of morphine, is not advisable; it acts like a regular brain-poison. During the period of acute neurasthenia warm baths, of ten or fifteen minutes duration, should be given every morning and evening. These may be advantageously terminated by thoroughly showering the spine with water a little cooler than the bath. As soon as the appetite begins to revive, massage should be employed, and the baths may be made somewhat cooler.

The method of treatment above sketched is only applicable to ordinarily healthy patients who have contracted the opium habit. It would be in the last degree inhuman to undertake a cure with the victims of incurable and painful diseases. For such, especially in malignant or tubercular cases, and in hæmorrhagic uterine cancer, morphine affords the best means of relief and prolongation of life.

We have been told that in China the use of opium is no more injurious than the moderate use of good wine or beer among the better classes in Occidental countries. Dr. Edwards, the physician in charge of the Opium Refuge connected with the China Inland Mission, states that "in the villages a large proportion of the inhabitants are addicted to the habit—according to the estimation of the people themselves, at least 80 or 90 per centum of the men above twenty; 50 or 60 per centum of the women; many of the young people in their teens, and even some of the children. The common opinion here is, that if a man begins to smoke opium and smokes regularly for a month, he will at the end of that time have a craving which nothing but a further supply of opium will satisfy. At the end of a year he finds his craving so great that without his pipe he can not possibly do his work. What his craving is, only those who smoke opium know. The replies of those who have been questioned on this point generally resolve themselves into this: When the craving comes on, I feel bad all over; my bones and joints ache, and the pain makes me perspire very freely. I am so weak that I can not work, and I feel if I do not take another pipe I shall soon die."

Kiernan, of Chicago, and Hughes, of St. Louis, recommend the use of three-drachm injections of tincture of capsicum into the rectum as an antidotal stimulant in cases of opium-poisoning. The effect is prompt, but its use is sometimes attended with the disagreeable consequence of a severe proctitis for a considerable time afterward.

Professor LYMAN closed by saying: Of all the people spoken to on the subject not one has been heard to say a word in defense of it, but almost without exception they give it an unqualified condemnation. The smokers themselves are very often ashamed to confess that they are addicted to the habit, and especially is this the case among those who come as patients. In the face of these facts one wonders what experience a man can have had who says that *he can testify that opium-smoking is of itself absolutely harmless.*

The PRESIDENT asked Professor Lyman whether he had observed any particular effects from the use of the fluid extract of *avena*, to which Professor Lyman replied that he had been unable to satisfy himself of its value, and thought it was one of those drugs with an imaginary reputation.

The PRESIDENT: It is not to any extent an antidote for the effects of opium, is it?

Professor LYMAN replied that it is not.

FIBROID TUMOR OF THE UTERUS.

The PRESIDENT exibited specimens of a fibroid tumor of the uterus, and made the following remarks: These specimens are from a uterine fibroid of 25 years' standing, in a lady 65 years of age. The history of the case, as near as it can be ascertained,

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is that about 25 years ago she first discovered the fact that she had a slight abdominal enlargement. She was then examined by two or three physicians in this city, and the growth was diagnosticated as "uterine fibroid, ovarian fibroma, sarcoma, cystic degeneration," etc. At one time—15 years ago—preparations were made for an operation, and the operators assembled, but for some reason or other it was abandoned. She then left this city for St. Paul, was there several times examined, but I have been unable to find out what diagnosis was made. She returned to Chicago about a year ago, and has been under my care since that time. I did not attempt to make a diagnosis, although I believed it to be a fibroid tumor. I did not propose to do anything for it, although the patient was in a good condition. But she was possessed with an almost insane desire to get rid of the tumor. It gave her so little inconvenience that I declined to operate. I did not call in counsel in the case. About six months afterward she went east on a visit, and was well enough, it seems, to climb the steps of the Capitol dome at Washington. From Washington she went to Brooklyn and New York, and kept up her excursions. She wrote back saying she had not felt so well for years. She was gone about two or three months, when she returned to the city feeling remarkably well; but two or three days after her return she began to have hæmorrhage from the uterus. She had little or no pain. I was called, and prescribed ergot in full doses, which arrested the hæmorrhage, and two or three days afterward these masses began to come away under the ergotic stimulation of the womb. They came away almost spontaneously, followed shortly after by the appearance of a very copious sanious discharge, which was offensive, and the patient's condition appeared to be alarming. I thought it possible that some of the remnants of the tumor might have been arrested in the mouth of the womb and might be drawn away by forceps. I introduced a Sims speculum and drew away a large mass of the tumor, but that produced no particular relief; the discharge continued to be copious and offensive. Seeing the condition in which the patient was, I had her etherized, and with placenta-forceps I drew away portion after portion of the tumor which appeared to be lying loose in the uterus and easily detached, until I had drawn away three times as much as you have here seen, and in a very offensive condition. I did not use a curette. Shortly after these masses were removed her pulse began to fail, and prudence dictated a suspension of operations. She came out of the operation without shock or exhaustion. Two or three weeks later this same sanious discharge appeared, and she returned for the removal of the rest of the tumor, or, as she expressed it, "wanted to be delivered." I again had her etherized, and removed all the detached portions of the tumor I could reach with a Thomas curette. The tumor appeared to be intramural, and to be a lobulated, fibrous mass as near as I could determine.

At the last operation, which was about two weeks ago, I removed what I believed to be all of the remaining portions of the growth and left only a denuded surface, which surface I denuded still more by the use of a curette, without much loss of blood or any great degree of exhaustion. After giving ergot, I ceased operations. The patient is improving from day to day, feels much better than she has for a long time, the offensive discharge has entirely ceased, and in every way the results of the case are very promising indeed.

Professor HOADLEY: Did the patient have the characteristic labor pains during the expulsion of the first mass of the tumor?

The PRESIDENT: Yes; she did.

Professor HOADLEY: Did the uterus contract after removing the mass?

The PRESIDENT: It contracted a little; it is day by day lessening its bulk, and I am still giving the ergot.

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Professor HOLMES: What relation, if any, has this tumor to those forms that are apt to be melanotic?

The PRESIDENT: No direct relation. Melanotic masses may be found sometimes in fibroid tumors, but they are isolated.

Professor LYMAN: What was the condition of the os?

The PRESIDENT: It was the size of a quarter of a dollar, and then I dilated it with a Thomas dilator.

Dr. STRONG asked whether sarcomatous tumors of the uterus, as a rule, were very rapid in their growth?

The PRESIDENT: Not very rapid. The rapidity of a uterine tumor depends largely upon the time it occurs. If the menopause had not occurred soon after this tumor developed, it would probably have become malignant. It is exceedingly interesting to notice how long the tumor had been there, and yet remained benign.

Professor HOADLEY: The malignancy of a sarcoma depends upon the patient's power to resist it. Some sarcoma become rapidly malignant. In Dr. Danforth's case the tumor occurred just at the right time to favor its physiological resistance. The blood-supply was cut off by the menopause; that is the only way to account for its benignity.

FOREIGN.

MEDICAL MATTERS.

MEDICAL EDUCATION AND WOMEN IN INDIA—A correspondent, writing to the *Journal and Examiner* from Pullumpett, Cuddapah District, Madras Presidency, India, says:

There are not many female surgeons and practitioners in this benighted Presidency. Women are not so much advanced in civilization as in the British countries. In America females are holding very prominent and useful positions in life. In India the state of things is quite different. The education of women is at a very low ebb, and liberty is a thing quite strange to them. The superstition and prejudice that have been reigning in India for the many dark ages are great barriers to the march of Western civilization. Thanks to the Almighty Providence who has vouchsafed to us the blessings of Western culture and freedom.

Only two native females have lately obtained the qualification for medical practitioners by passing the examination prescribed by the Government of Madras, and they have been lately appointed to take charge of the hospitals for women. Mostly, the practitioners, like myself, are males. There are a few ladies from America, connected with the American Board of Foreign Missions, who are doing very good and noble work among the Eastern sisters in this Presidency. I am in charge of a dispensary where out-patients are to be treated for their several complaints. I have obtained the diploma of apothecary by passing the required examination, after a course of study extending over four years in the Madras Medical College.

MEDICAL PRACTICE IN CHINA.—A writer in a letter from Kinngchow, Hainan, China, May 21, 1887, says: Ever since I came to Hainan I have seen more or less of the medical work of this station, and have always found it full of interest. Last year after May 1, our two doctors treated over 12,000 (or rather received over 12,000 visits from out-patients), besides treating 200 in-patients, and performing nearly a thousand surgical operations. The number coming was so great at times that they could not all be seen in one day, and the press to get into the dispensing room, even in spite of the efforts of our helpers, was so great, that at times the weak were in danger.

Those seeking treatment suffer mostly from skin diseases and from fevers. Blindness is quite common here, and sight has been restored to several by the removal of cataract, and several cancers have been

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removed. There is no lack of patients, and no one knows how much direct good is done by the removal of suffering; but the indirect good is still more incalculable. As one instance of indirect good resulting to us from the medical work, we are enabled to remain in this city during the examinations, with no other annoyance than the curiosity which a foreigner is sure to excite in any part of China.

The number coming from all directions, and often several days' journey for medicines, present an interesting congregation.

JOPPA MEDICAL COLLEGE.—An extract from the report of a hospital connected with the Joppa (*Jaffa*) Medical Mission, Palestine, says: The Medical Mission is carried on five days in every week, the patients often beginning to gather round the gate as early as 6 a. m., in their eagerness for the nine o'clock opening. The total number of attendants from November 1, 1885, to December 31, 1886, was 11,176. During the same period, notwithstanding the trials and hindrances of the work, 231 patients have been nursed in the hospital, of whom twelve have died, seven being admitted in a hopeless condition. Of these in-patients, eight were Jews, ten were Maronites, three Latins, six Protestants, nineteen Greeks, one Armenian, one Copt, and 183 Moslems. The increased accommodation of the new hospital has admitted of a ward being set apart for women, already occupied by five patients.

GRADUATES FROM FRENCH MEDICAL SCHOOLS.—The number of Doctors of Medicine graduated by French faculties during the past five years is as follows: 1882–83, 622; 1883–84, 590; 1884–85, 575; 1885–86, 546; 1886–87, 624. The sudden increase in 1886–87 was due to the new law requiring medical men of the navy to take the degree from one of the six faculties.

STUDENTS IN PARIS IN 1886–87.—On October 15 there were 3,966 medical students registered in Paris, and 582 graduates. Of the latter, 479 were French, and 103 foreign. Among the foreign students the Americans and Servians headed the list with 20 each. Of the 11 women students registered, 10 were Russian and one Greek.

THE JAPANESE SANITARY ASSOCIATION, which has 4,700 members, was founded in 1883, and now has twenty-eight branches in different parts of Japan. At the annual meeting of the association in Tokio, in May, 1887, there were 20,000 visitors to the hygienic exhibition. The name of the official journal of the association is *Dai Nippon Shiritsu Eiseikwai Zasshi*.

Two thousand eight hundred and seventy-nine patients were treated last year at the Peking, China, Medical Mission Hospital, and at the New Dispensary at Nanking over 250 a day were prescribed for.

DAMASCUS MEDICAL MISSION.—Dr. Mackinnon reports regarding his medical missionary work at Damascus, that during the first eighteen months of his service in that city he treated more than 2,000 cases.

ABSTRACTS AND EXTRACTS.

A CASE OF ANILINE POISONING.

BY DR. CARL DEHIO,
Professor Extraordinary, University of Dorpat.

[Berliner Klinische Wochenschrift, No. 1, 1888.
Abstracted and Translated by Professor Lester Curtis.]

A healthy woman, twenty-three years old, having made a good recovery from a perfectly normal delivery, learning that she was about to be discharged from the hospital, took ten grammes of aniline oil at once, with suicidal intent. She then went to bed and apparently went to sleep.

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A few hours later the attention of the nurse was directed to her by loud rattling in the throat and groans.

The physician noticed a deep cyanotic coloring of the face and of the extremities, hurried respiration, accelerated pulse, wide pupils, and a penetrating odor of aniline oil from the mouth of the patient.

After instillation of milk, copious vomiting followed. The vomited matter was of a yellow-brown color, and smelled plainly of aniline oil. It was given to Professor Dragendorff for further investigation. About an hour later, light somnolence appeared, which increased rapidly, and toward morning passed into unconsciousness. In this condition the patient was transferred to the medical clinic on the morning of February 13.

There the following conditions were found at nine o'clock in the morning: Powerful, bony frame, abundant sub-cutaneous fat, strong muscles. Patient lies passive on the back, completely unconscious, with closed eyes; reacts neither to calls nor to deep pricks with a needle. Does not swallow when fluid is placed in the mouth. Pupils of medium size, react well toward light. The voluntary muscular activity is fully suspended. The nose cool, hands and feet warm, color of face and skin very pale. The whole surface of the body and the visible mucous membrane is of a peculiar grayish-blue color. No signs of œdema. When the vessels are emptied of blood, by pressure on the skin, the color remains. The color in this respect differs widely from the livid hue of proper cyanosis.

The breathing, 25 in a minute, is accelerated, irregular, and unequal, the inspirations for the most part uncommonly deep, the expiration protracted and occasionally attended with groans. The pause between inspiration and expiration is lacking; voice during groaning clear, no cough. The boundaries of the lungs normal. On the posterior dependent portions some moist medium bubbling, soft crepitant râles and sibilant râles, every where vesicular breathing, nowhere muffled.

Pulse, 132, with low wave, radial artery imperfectly filled and tension low, apex-beat in the fourth intercostal space, within the line of the nipple, not enlarged nor strengthened. No epigastric pulse, heart sounds clear and plain, spleen and liver show nothing abnormal. Abdomen tympanitic throughout; tongue moist, mouth and fauces unchanged except from the blue coloration of the mucous membrane. On the buttocks a few small venous ektasia.

The stomach was immediately washed out, but brought to light no trace of stomach contents (patient had vomited a few hours before). Temperature of the body not raised (36.9°) (98.4°Fahr.)

The diagnosis was made perfectly certain by Professor Dragendorff, who obtained with the greatest clearness, in the vomited matter, the reaction of aniline as well as that of toluiden.

The clinical history is as follows:

The first twenty-four hours the condition of the patient remained nearly unchanged. Every three hours the patient was put in a warm full bath of 30° R. (99.5° Fahr.), and while in the bath, ice water was poured over head, breast, and back, but with no results.

Turpentine inhalations, recommended by Kiljanski in aniline poisoning, were used without producing any change in the condition. The pulse was small and easily compressible, and varied from 124 to 136 beats; sphygmographically, it showed a plain lowering of the pulse-wave during inspiration. The temperature of the body sank during the course of the day to 35.7° C. (96.2° Fahr.)

The amount of urine drawn with the catheter about 2 p. m., about fourteen hours after the poisoning, amounted to 585 ccm. (1 pint), had a specific gravity of about 1,019, was somewhat turbid, of a deep yellow color, with a strong acid reaction, and contained neither albumen nor

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sugar. Biliary coloring matter could not be shown in the urine. With the microscope leucocytes and some bladder epithelium were found.

The investigation of this portion of the urine, undertaken by Professor Dragendorff, gave aniline and toluidin (especially paratoluidin), as well as the presence of derivatives from both of these substances which had probably been separated by the kidneys in the form of complex sulphonic acids (gepaarten Schwefelsäuren).

About 10 o'clock in the evening, about eighty ccm. (two ounces) of blood were taken from an opening in a vein. This was very dark and brownish, and was fluid after ten minutes. The serum, which by the next morning had separated from the coagulum, was of an intense yellowish red. The examination of this for an accidental biliary coloring matter was unfortunately neglected by me. Professor Dragendorff has shown in the blood aniline and toluidin, and the same derivatives from these substances as in the urine.

During the night of February 13–14 the breathing was quieter, and the complete unconsciousness passed into a state in which the patient still lay in a deep stupor, but noticed, though imperfectly, strong irritations. At least, after deep pricks with the needle, slight reflex twitchings occurred and weak motions of warding off.

On the morning of February 14 (about thirty hours after the poisoning) the temperature was 37° (98.6° Fahr.), the pulse was 112, the wave very low; the radial artery had the same weak tension and fullness as the day before. The respiration was still accelerated (36 a minute), but more uniform, and no longer accompanied by groaning. The surface of the body moist, the forehead and face covered with profuse sweat; consciousness had not yet fully returned.

Toward noon, the patient began to swallow when fluids were put into the mouth. After an enæma, followed a tolerably copious brownish-yellow stool.

At six o'clock in the evening the patient lay in a copious perspiration, which covered the whole body and collected in thick drops on the face. She opened her eyes and looked before her with an apathetic expression; did not speak; did not move spontaneously, and responded to needle pricks by sluggish shrinking and groaning sighs. Pulse 104, wave very small, scarcely perceptible; heart sounds faint but clear; respiration 32, superficial; some cough, everywhere vesicular breathing; crepitant râles not noticeable; extremities warm, temperature 33.7° (92.° Fahr.)

Ordered a tablespoonful of brandy punch every hour.

On the morning of the 15th of February, three days after the poisoning, intelligence had fully returned. Patient answers all questions sluggishly, but with perfect clearness; complains of headache and sense of oppression in the left of the abdomen. Voluntary motions are possible; but the general weakness of the body is so great that she can not turn herself on her side without help, or hold her arm in the air unsupported. Pricks with the needle are perceived accurately everywhere; pupils torelably wide, react well to light. The pulse, 108, is fuller and stronger than last evening. Breathing free, 26.

The jaundiced coloration of the skin and conjunctiva has increased. The liver not demonstrably increased, not painful on pressure. Spleen the same. The blue coloration of the skin has become less; but in spite of the contemporaneous jaundice it is plainly noticeable under the breasts, on the nates, and in the inguinal folds. Temperature, 37.5° (99.5° Fahr.)

Ordered brandy, buillon, milk.

The urine drawn with the catheter at 11 a. m. amounted to 485 ccm. (sp. grav. 1,020), was dark yellow red, clear, free from albumen, and gives a plain reaction for biliary coloring matter.

February 16, morning (fourth day of illness). Patient is indifferent to everything that goes on around her, headache less, no

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thirst, no appetite, an abundant secretion from the vagina, jaundice and general condition unchanged, temperature 37.2° (98.6° Fahr.), pulse 90, respiration 30.

Evening, temperature 37.2° (99° Fahr.), pulse 88, respiration 28. Patient complains of severe spontaneous pain, and of pain, on pressure, in the epigastrium. No nausea, vomiting, or other gastric symptoms, with exception of loss of appetite. Patient has had no evacuation of the bowels or of the urine for twenty-four hours, and was therefore catheterized. The urine thus obtained was 1,325 ccm. (2 4-10 pints), sp. grav. 1,020, is brown red, somewhat turbid, acid; the filtered urine does not become cloudy on boiling, and gives a plain reaction for biliary coloring matter.

February 17, morning (fifth day of illness). Temperature, 36.8° (98.3°Fahr.), pulse 88, respiration 24. Patient is perfectly sensible, complains of slight headache. Pain in epigastrium on pressure is less, jaundice less intense, surface of the body lemon-yellow color, pulse small and weak, respiration perfectly free and quiet.

Evening. Patient has again passed no urine for twenty-four hours, although the bladder is distended almost to the navel. She has raised the suspicion, by her capricious, hysterical manner, that the retention of urine is simulated. About 1,465 ccm. (2.6 pints) of urine were drawn by the catheter at one time, which was of the same character as the day before; temperature 37.6° (99.7°Fahr.), pulse 80. A hypodermic injection of morphine was given in the night on account of a sudden cardialgia.

February 18, morning (sixth day). Temperature 36.7° (98.3°Fahr.), pulse 80. The patient is weak and without appetite, complains of moderate abdominal pain. Objectively, everything is unchanged, the retention of urine continues, the jaundice is fainter than the day before, the blue coloration no longer noticeable, the urine, drawn at evening with the catheter (sp. grav. 1,018), amounts to 825 ccm. (1.5 pints). It is very turbid, brownish-red, acid, and on standing, deposits an abundant muco-purulent sediment. Filtered clear and boiled, it shows a scanty red cloud which does not diminish by saturation with acetic acid (hæmoglobin?) Notwithstanding the dark color of the filtered urine, Gmelin's test gives no plain reaction for biliary coloring matter. Temperature 37.4° (99.3°Fahr.), pulse 84.

February 19, morning (seventh day). Patient slept well during the night; temperature 37.5° (99.5°Fahr.), pulse 108, respiration 26, appetite returns. Tenderness, on pressure, over the epigastrium unchanged, liver not demonstrably enlarged, jaundiced color of the body still present. Patient is still so weak that she can not stand, but she can hold herself upright in bed for a short time. The patient passes no urine voluntarily, and complains of no feeling of oppression, although the bladder is distended almost to the navel. With the catheter 1,700 ccm. (3 pints) (of 1,014 sp. grav.) of urine were drawn. This has to-day a quite striking appearance; it is of a black-brown color, almost perfectly opaque, of an acid reaction, and on standing, precipitated an abundant red-brown sediment. When filtered, the urine is of crystal clearness, of a Burgundy-red color and, with the spectroscope, shows in the plainest manner the absorption bands of oxyhæmoglobin. By boiling, there collects a floating, coagulated, brown mass. When this is filtered out, the urine appears a pale yellow. Heated with a solution of potash, a red-colored, rather scanty, sediment is deposited from the filtered urine, without a perfect decolorization of the urine resulting (Heller's blood test). Biliary coloring-matters are no longer to be demonstrated with certainty. The urine sediment consists of very numerous round cells, which in part contain a large plain nucleus and have taken up a great quantity of fine brown granules. Some of these cells contain vacuoles. Further, a quantity of cylindrical structures are to be noticed, of the size and form of medium-sized tube-

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casts, which consist of dark-brown granular masses; also a few hyaline casts, which are covered with thickly granular brown masses. A sample of blood was obtained from a small venesection; it flowed readily, and the following day showed a deep Burgundy-red serum in which was seen oxyhæmoglobin spectrum.

A sample of blood from the tip of the finger shows, under the microscope, a defective formation of rouleaux, some half decolorized blood-corpuscles, and a good many remains of red corpuscles which have become quite colorless (so-called shadows); dismembered poikilocythen, among which the cup-shaped, bulged-out forms prevail; white blood-corpuscles, relatively quite numerous, and a quantity of small colorless nuclei, and heaps of granules. Several counts of the red blood-corpuscles gave an average of 2,700,000 corpuscles in a cubic millimetre.

February 20, morning (eighth day). Patient has slept tolerably well; temperature 37.5° (99.5°Fahr.), pulse 95, appetite good, body weakness still very great, jaundice diminishes constantly. Evening, temperature 36.7° (97.°Fahr.), pulse 104, respiration 20; 1,500 ccm. (2.7 pints) of urine were spontaneously voided. The color is dark red, a little brighter than yesterday. In other respects the urine shows exactly the same character as the day before.

February 21, morning (ninth day). Patient slept badly, complains of headache, temperature 36.7° (91.°Fahr.), pulse 96. There is now only a slight trace of jaundice, the general condition of strength improves, has appetite. The urine is now voided spontaneously, the daily quantity amounting to 1,900 ccm. (3.4 pints).

The urine is acid, turbid, and of a red color, but brighter than yesterday, and allows only a slight red color of the precipitate to be seen with Heller's blood-test. Spectroscopically, the hæmoglobin bands are less distinctly to be noticed; biliary color reactions are no longer to be obtained; the abundant sediment consists of leucocytes and manifold nuclei, which contain within them a number of colorless, strongly refracting granules and drops and only a few brown granules.

February 22, morning (tenth day). Temperature 36.4° (97.5°Fahr.), pulse 110. Evening, temperature 37.3 (99.°Fahr.), pulse 132. The urine is of a yellow color, turbid. Hæmoglobin is no longer to be demonstrated. The daily quantity amounts to 1,550 ccm. Brown granules are no longer to be found in the cells of the copious purulent sediment.

February 23, morning (eleventh day). Temperature 36.6° (97.9°Fahr.) Evening, temperature 37.3° (99.°Fahr.), pulse 105. Jaundice has entirely disappeared, the great degree of wax-like paleness of the skin and mucous membrane now shows very plainly.

The quantity of fat has decidedly diminished in the past week, the muscular apparatus is weak and relaxed, the appetite moderate, no stomach symptoms. Objective changes in the abdominal organs can not be demonstrated. Belly soft, not springy, liver and spleen not demonstrably changed, patient complains of severe pain in the whole abdomen, and has been constipated for a few days. The blood drawn from the forefinger by a needle-prick is microscopically very pale and watery, and shows an average of 1,400,000 red corpuscles in a cubic millimetre. Quantity of urine 1,250 ccm., with the same character as yesterday. A soft brown stool followed a dose of castor oil.

February 24, morning. Temperature 36.8° (298.°Fahr.), pulse 90. Evening, temperature 37.2° (99.° Fahr.), pulse 132.

Quantity of urine 1,400 ccm. (2½ pints), character unchanged; sleeplessness. After 4.0 paraldehyde, sleep followed for two hours.

February 25. Condition unchanged; quantity of urine 1,450.

Evening, paraldehyde 6.0, followed by some hours' sleep.

February 26, morning (fourteenth day).

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Temperature 36.9° (98.4° Fahr.), pulse 99. The patient is very languid and without strength, and complains continually of drawing pains in the body and the extremities, and of occasional numbness in the latter. Emaciation has made rapid progress and the anæmia has reached a very high degree. The skin is pale as marble, the lips quite colorless.

The urine is of a deep yellow color, is feebly acid, and, on standing, becomes very soon alkaline. It deposits a thick muco-purulent sediment, and contains in the purulent mixture a correspondingly small quantity of albumen. The sediment consists of leucocytes, flat epithelium, and disintegrated hyaline tube-casts with a few casts beset with epithelium.

From February 27 to the 1st of March, the condition of the patient gradually improved; the strength began to increase, but the vague pains remained, and the urine also contained a muco-purulent sediment. Tube-casts were no longer to be found.

March 2 (eighteenth day). A moderate but unmistakable diminution of the liver dullness can be demonstrated. Its lower border is two finger-breadths higher than normal, and reaches on the left only to the median line, so that the lower edge of the heart-dullness borders, to a great extent, directly on the tympanitic resonance of the stomach. The examination of the urine for leucin and tyrosin gives a negative result. Two counts gave respectively 3,000,000 and 3,400,000 blood-corpuscles in a cubic millimetre of blood.

March 3. The day's quantity of urine amounts to 1,650 ccm., and in this are contained :

Urea.....(1.06 p. ct.)—18.02 gr.
Uric acid.....(0.0156 p. ct.)— 0.27 gr.
Chlorine.....(0.072 p. ct.) 1.97 g. na. cl.
Sulphur (SO_3)..(0.04 p. ct.)—68. g.
Phosphorus (P_2O_5)(0.08 p. ct.)—1.36 g.

While in general the secretion of the ordinary constituents of the urine had returned to about half the normal, which in the anæmic patient lying in bed is not to be wondered at, the amount of chlorine separated in the twenty-four hours is about one-tenth the normal daily secretion. An analysis of the urine from March 17 to 22, gave quite normal results. On the 7th of April, patient was discharged.

The author's discussion of this history, though occupying some space, must be given very briefly.

Following the first vomiting, which was undoubtedly due to gastric irritation, were the symptoms which were, without doubt, due to the action of the poison contained in the blood on the nervous system, such as the stupor, the loss of the reflexes, and power of motion, the change in breathing, pulse-rate, depression of temperature, the sweating, etc.

The bluish hue of the skin appears to be due to a coloring matter formed from the breaking up of the aniline oil. Dragendorff is also of this opinion. Similar substances were found in the urine, but disappeared after the fifth day, when the aniline oil seems to have been pretty completely eliminated.

The poison appears to have had a destructive action on the blood. Twenty-one hours after the poisoning the urine contained biliary coloring-matters; the jaundice grew in intensity up to the fifth day, when the biliary coloring-matter disappeared from the urine, and the jaundice diminished. The opinion of the author is that this color comes from disintegrated blood-corpuscles. If it had been due to absorption of bile there would have been more biliary acids in the urine.

On the sixth day the urine contained a great quantity of hæmoglobin which, of course, indicated a still greater degree of destruction of the corpuscles. How great this destruction was is indicated in several ways, especially by the count of the red corpuscles, which, instead of the normal 5,000,000 to 5,500,000 in a cubic millimetre fell on the 11th day to 1,400,000.

From the ceasing of the hæmoglobinuria dates the beginning of the convalesence of the patient.

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"At any rate, the present clinical case shows with a sharpness which can not be excelled by an experiment on an animal, that aniline oil belongs to that group of poisons which can cause both jaundice and hæmoglobinuria in the same individual; a fact which before this time was not known."

STUDIES IN JAPANESE "KAKKE," OR BERI-BERI.

BY WALLACE TAYLOR, M. D.,
OF OSAKA, JAPAN.

History.—The most competent writers believe that a disease corresponding to that now known in Japan as kakke existed in China as early as the year 200, B. C. The term signifies disease of the legs.

The accounts given of this disease state that it appeared in the province of Tsin, during the Tsin dynasty, which existed from 267 to 317, A. D.; and that from thence it gradually spread over the country to the east and south of the river. The ancient province of Tsin included the southern half of Shansi and the northwest portion of Honan provinces.

It would appear that "kakke" was first known in this section of China, and gradually spread over the alluvial plain east along the Hoang Ho River, and then gradually became disseminated over a large portion of the country. But spreading over the country may mean no more than that this disease was then first recognized. In the crude state of medical knowledge of that time, the disease may have prevailed ages before unrecognized. Recent Chinese medical literature is silent in regard to this disease, hence it has been thought to have disappeared from the country. European physicians, practicing in China, have failed to recognize this disease till recently. Within the last two years Drs. Lambeth and Park of Tsuchow, and Dr. Boone of Shanghai, have met a number of cases. These gentlemen are of the opinion that there are many cases of beriberi among the Chinese. The disease has also been recognized at Fatshan, near Canton, and among the Chinese in the Hong-Kong city hospital.

The earliest account of this disease in Japan is found in the political history of the country. As early as A. D. 809, the historical collections of "*Nihon Koeki*" record a letter of resignation of an officer to his superior in Kiyoto, assigning as the reason of his resignation that every year he suffered from "*Ashi ke yamai*" (disease of the legs), and was therefore unable to perform the duties of his office. The earliest account of this disease in Japanese medical literature dates back to about A. D. 880. Most of the earlier medical writers drew their description of this disease largely from Chinese medical works, but state that the disease was found in Japan. The earliest account of this disease in Japanese medical literature, bearing evidence of originality, dates back about 165 years. Since that date the references to the disease become more and more frequent, and show a better understanding of its nature. There is evidence conclusive to show, that within recent years it has been gradually extending to districts where it had hitherto been unknown.

Pathology.—The statements made in regard to the condition of the blood in beri-beri have been contradictory. Most authors state that anæmia is one of the causes of this disease, or if not a predisposing cause, an essential accompanying element, and also that there is an increase in the number of white corpuscles in the blood. Dr. Simmons was the first to contradict this prevailing opinion. The peculiar pallor which most generally accompanies this disease has undoubtedly led to this opinion. But this appearance is deceptive; it is not due to an impoverished condition of the blood, but to other causes.

Clinical experience had led me, several years ago, to the conclusion that anæmia was not a predisposing cause, and if found

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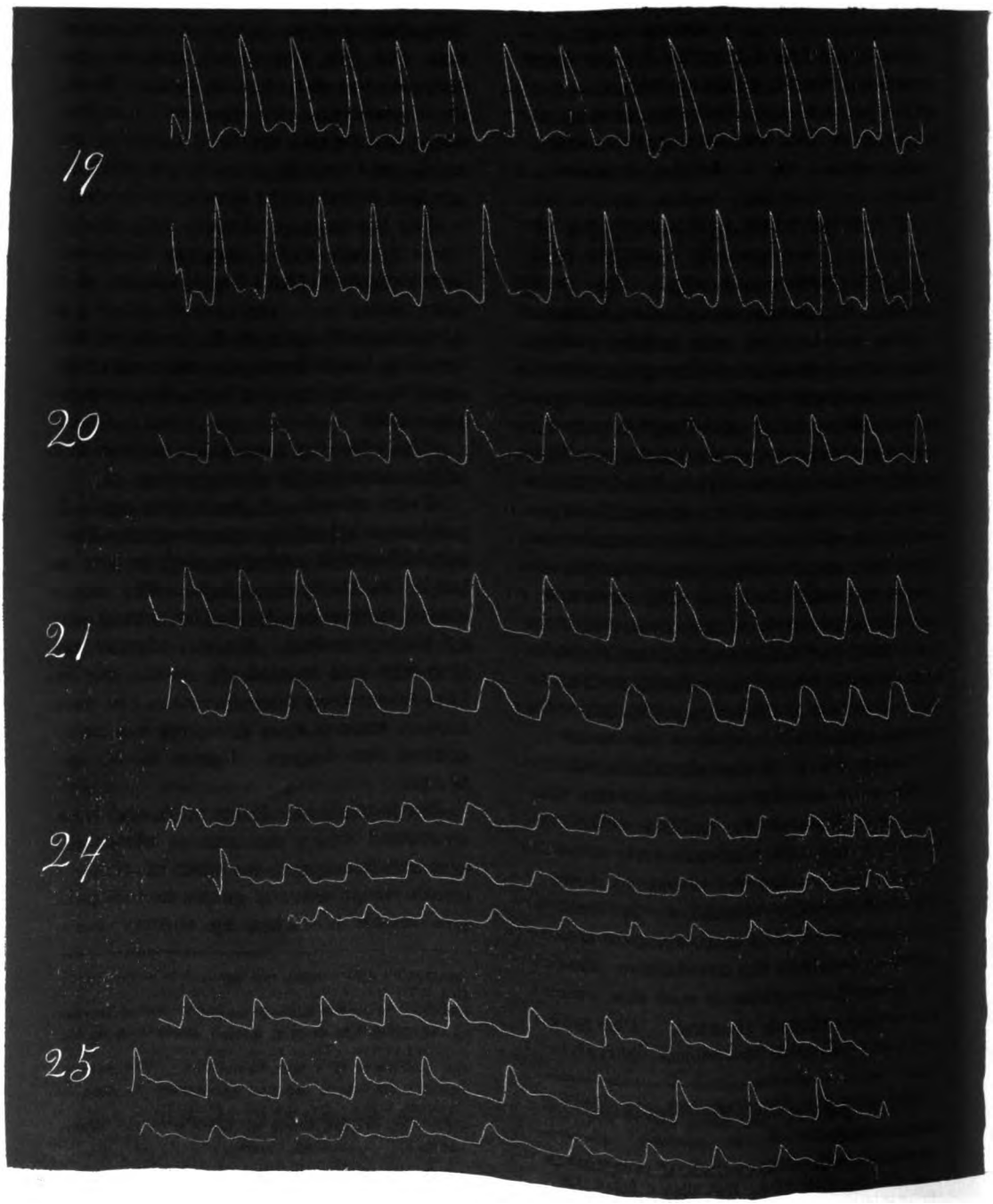

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complicating cases of kakke its association was accidental; and, to fully settle the question for myself, I began a series of observations* on the blood of kakee patients.

During the last few years I have kept a record of the physical condition of the kakke patients seen, and herewith give a summary of that record, together with a similar report of a kakke hospital in Tokio:

	Taylor.	Kakke hospital.	Sum.
Of strong constitution	323	593	916
" average "	15	28	43
" weak "	9	6	15

Thus, in a total of 973 kakke patients, there was 94 per cent. of strong constitution (a result almost identical with that given in the above tables) and only 6 per cent. of average and weak constitutions. These numbers are large enough to be conclusive, and anæmia is not one of the pathological conditions of kakke. In those cases where there was some anæmia, no relation was found to exist between the amount of anæmia and the severity of the disease. The pallor and œdema of the face, so often seen in cases of kakke, is deceptive, giving the patient an anæmic appearance when no anæmia exists.

The condition of the circulation is one of the most striking as well as the most important features of kakke. However profound the muscular paralysis may be, there is no occasion for alarm so long as the respiratory and circulatory systems are not involved. But in most cases of marked muscular paralysis the respiratory muscles are somewhat weakened, and the circulatory system seriously affected. The phenomena of "*shiyoshin*"†—which is liable to suddenly occur at any time in any case—is chiefly due to failure of the circulation and respiration, especially the former. I have witnessed but few cases of death from kakke where failure of the circulation was not the chief, and in many instances the sole cause of death. Though these paroxysms of "*shiyoshin*" sometimes unexpectedly and suddenly occur in mild cases, yet they are generally preceded by a gradual failure of the powers of circulation.

For the purpose of more fully studying the cardiac and vascular phenomena occurring in kakke I began a series of observations‡ with the sphygmograph,§ and give herewith some of the cases with the tracings taken during the summers of 1883 and '84. For want of room only two cases are cited:

The following description is given of the clinical symptoms of two cases:

CASE 16.—K. T., male, aet. 49. The patient is of strong constitution. This is his fifth attack of kakke, and he has now been ill thirty-five days. He can not stand, neither can he flex or extend either of his legs or feet. He can slightly move the toes and imperfectly rotate the legs. His wrists drop when the arms are raised, and he can not raise them, nor can he fully extend the fingers. Dynm. R. H. 5, L. H. 5.

Respiration 26. Pulse weak, and is more weakened when the arm is elevated. I can not distinguish the click of either the aortic or pulmonary cusps, as the patient lies on his back, but by slightly turning

* The results of these observations have been published in full in the "*Tokeizasshi*," 1883, Osaka, and in the "*Tokei Medical Journal*," 1884.

† "*Shiyoshin*."—This term as used by the Japanese has no pathological signification; they simply mean by it a metastasis of kakke to the chest. The paroxysms of "*Shiyoshin*" bear some resemblance to an acute attack of *Angina pectoris*. There is great distress in the chest, accompanied by marked dyspnœa, and failure of the powers of circulation. The action of the heart is sometimes rapid and violent, and again it is calm and quiet. But whatever be the character of the heart's action, the increased feebleness of the pulse and increased blueness of of the extremities show a marked diminution of the circulatory power. These paroxysms are almost invariably the precursors of a fatal termination. The patient not infrequently dies in the first paroxysms; he may linger, however, a few days, the paroxysms growing more and more frequent and severe till death ends the distressing scene.

‡ A full report of these observations are published in the "*Tokei Medical Journal*," 1885-86.

§ The tracings here given were taken with Marcy's Sphygmograph, improved by Mahomed; and the rate of travel by the slide bearing the card was 11 to 12 cm. in 10 seconds.

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him over on his left side these valve sounds can be faintly heard. He has some distress in the chest, and suffers from palpitation of the heart.

Seven days later the patient is gradually losing ground. The hands and feet are cold and slightly purple. They look and feel much as the extremities of a person in collapse from cholera, except that the cuticle still retains its elasticity. The voice has grown very weak, and the patient is suffering from marked dyspnœa. The diaphragm is partially paralyzed, and respiration is largely carried on by the respiratory muscles of the chest.

But the following night slight "*shiyoshin*" developed, and the patient died.

CASE 19.—Y. C., male, aet. 19. The patient is of strong constitution. This was a mild case, and had been ill some thirty days. He was attending the hospital as an out-patient, continued his work, and did not appear much discommoded by his slight muscular paralysis. He had not reported himself for some ten days. He said he had been gradually growing worse for the last three days. Last night he was taken with pain in the bowels and distress in the chest. This gradually grew worse, and this morning he had several very copious movements of the bowels. He became faint and slight "*shiyoshin*" developed, when I was sent for. The paroxysm of "*shiyoshin*" had passed off before I reached the patient. The pulse was weak, there was marked pallor, the extremities were cold, and the patient was in a state of partial collapse.

Cases are frequently met with where the first prominent symptoms of kakke developed just as this did, with diarrhœa and distress in the chest. Such cases of "*shiyoshin*" are occasionally met, but diarrhœa does not generally accompany kakke; obstinate constipation is much more frequently met with.

Condition of blood: A large number of kakke micro-organisms were found in this patient's blood.

There was some œdema. The patient was at once given digitalis, strichnia, and whisky, and put upon an active course of cathartics and diuretics. The patient at once began to improve.

Summary.—There was no organic disease of the heart or arteries in any of the cases observed, and no functional cardiac derangement, except that due to the disease.

There are three characteristics in all kakke pulse tracings, viz.: (*a*) The very sudden and high upstroke of the ventricular systole. (*b*) The precipitous descent from the apex of the purcussion wave. (*c*) Dicrotism.

The first deviation of the circulatory system in kakke from the normal is one of cardiac excitement. In the early stages of kakke, and in mild cases, the sudden and tall upstroke of the percussion wave points to a condition of *cardiac excitement.* The first complaints that kakee patients made along with that of anæsthsia and œdema of the legs is (*ikidoshii*) of cardiac dyspnœa.

The low condition of arterial tension is due to loss of *vaso-motor* tone, producing a relaxed condition of the arterial and capillary systems and permitting a free outflow from the arteries. This also is the chief cause of the precipitous descent from the apex of the percussion wave. This interpretation is in accordance with the teachings of clinical experience. The sensation imparted by the pulse to the finger on the artery is that the blood courses along the artery in distinct waves to be completely emptied in the interval. Also the sense of coldness of the extremities, which the patient experiences as the case advances, and the purple hue of the fingers and toes, denotes a loss of *vaso-motor* tone, with a relaxed condition of the capillary system and diminished cardiac power. The advance of the purple hue up the extremities during *shiysohin* (and also frequently previous to and denoting the approach of *shiyoshin*), points also to continued loss of *vaso-motor* tone, with in-

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creased relaxation of the vascular system and accumulation of blood in the capillaries.

The elements of danger in kakke are found in the impaired condition of the heart and circulation. It will be noticed that the relation which exists between the condition of the vascular system and the general condition of the patient is subject to great variation. (*a*) The tracings in some cases show very irregular action of the heart, an abnormal high and sudden upstroke of the ventricular systole with loss of arterial tension, when the general symptoms were not those of greater danger. This is a very common condition; and cases are frequently met with where this contrast is so great that the patient is considered suffering from serious functional derangement or neurosis of the heart, while the ordinary symptoms of kakke are so slight as to be passed by unnoticed. (*b*) Again, when the general symptoms were grave, the tracings often show but slight deviation from the normal. (*c*) However grave the general symptoms may be, so long as the condition of the circulation and respiration remain good, there is no occasion for alarm. But however mild the general symptoms may be, if the condition of the circulation is much impaired, the indications are those of grave danger. The physician must look to the condition of the heart and circulation in kakke to determine the elements of danger in the case.

The extent to which the heart and VASO-MOTOR *system are affected in kakke, is relatively subject to considerable change.* The relaxed condition of the arterial and capillary system shows that the *vaso-motor* nerves of the sympathetic system are affected. (*a*) In some cases the sudden and tall upstroke of the percussion wave shows that the muscular grasp of the heart upon the contained blood is strong, giving a vigorous ventricular systole; while in the same tracing there is a precipitous fall from the apex of the percussion wave, a fully dicrotic or hyperdicrotic pulse with greatly reduced arterial tension, denoting a marked loss of *vaso-motor* tone. (*b*) Again, in other cases with weak cardiac action, there is a measure of arterial tension. (*c*) My experience with the sphygmograph in kakke has taught me that loss of *vaso-motor* tone is fraught with graver danger than loss of cardiac muscular power.

When there is marked dicrotism, loss of *vaso-motor* tone, and a relaxed arterial and capillary system with free outflow, even though the sudden and high upstroke of the percussion waves show favorable cardiac power, *shiyoshin* is liable to occur at any time.

In the above condition the toiling heart may at any time become exhausted, the powers of circulation suffer a partial collapse, and the phenomena of *shiyoshin* be developed.

Addenda.—Kakke presents some peculiar features of interest for study and investigation, among which we may mention:

Age.—Age as a predisposing cause to kakke is readily admitted by those who have had some experience with this disease. The most susceptible age is from sixteen to twenty-eight or thirty-two. A very large ratio of those seen in general practice will be young men between the ages of seventeen and twenty-five. I have never met with a case under twelve years of age, and from extensive inquiry, have not heard of a case under eleven. Children appear to enjoy an absolute immunity from kakke. I have never met with a case over sixty-three years of age, and am informed that it very seldom occurs over sixty and never over sixty-five.

Recurrence.—One attack of kakke appears to render the patient more liable to subsequent attacks. A large number of those seen will state that they have suffered repeatedly from kakke in successive years. Many have had from three to five, seven, and ten attacks in as many successive years. Occasionally you will meet those who have repeatedly suffered from kakke, yet have one or two years' remission. Last year I

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met with two persons, each of whom had suffered from kakke for the last twenty successive years.

Sex.—Women are much less likely to be affected with kakke than men. A common estimate among the Japanese for the number of cases of kakke occurring among women is 4–6 per centum. But this estimate is much too low. While women do enjoy a peculiar immunity from this disease, the difference between the number of women and men affected is not so great as would at first appear. Women generally have the disease in a much milder form than men; and many of them affected with kakke have it so light that they do not apply for medical aid. Of the number of cases recorded in my case-book, over 16 per cent. have been women; and an estimate of from 10 to 15 per cent. would be a close approach to the ratio of female cases occuring in kakke.

Puerperal Kakke.—Though women in general enjoy a marked immunity from kakke, yet in the puerperal state they are quite subject to this disease, and when taken in this condition it is attended with a marked fatality. Of the female kakke cases coming under my observation over 36 per cent. have been puerperal. Kakke may occur during lactation. In such cases it is not attended by special fatality; but it is very liable to occur shortly before or after child-birth, and in such cases it is most likely to be severe and attended with a high rate of mortality. Of such cases falling under my observation over 65 per cent. have been fatal.

Urine.—It is but seldom that traces of albumen are found in the urine of kakke patients. Of the cases coming under my observation, the urine of three or four contained for a short time a small quantity of albumen, that showed no traces of it after recovery. In almost all kakke cases the urinary secretion is diminished, and if the case is severe very markedly diminished. It frequently runs down to 900, 600, 300 cubic centimeters in twenty-four hours, and occasionally as low as 200 or 150 c.c. In some cases under my observation it has run down as low as 100–50 c.c. in twenty-four hours for several successive days, yet no œdema occurred. But such cases are most likely to die. The importance of keeping up the secretion of urine to the fullest extent should never be lost sight of in treating cases of kakke. If the circulation is not specially affected and the secretion of urine can be kept up to a reasonable quantity of 900 or 750 c.c. per day, the case may be considered hopeful. But if this secretion runs down below 600 or 500 c.c. in twenty-four hours, and can not be brought up, the case should be considered doubtful; for though the condition of the circulation be good, with so small a secretion of urine the powers of the circulation will soon show signs of failure. The secretion of urine frequently ceases some hours before death.

Paralysis of the Bladder.—Partial paralysis of the muscular walls of the bladder are occasionally met with in cases of kakke, so that micturition becomes tedious and imperfect. But if the case progresses favorably this will pass off after some days. A few cases of complete paralysis of the bladder, a short time before death, have also come under my observation; when, although the patient had not urinated for some time, yet a reasonable amount was drawn off with a catheter.

FACTS REGARDING HEATHEN IGNORANCE OF THE HEALING ART.

[Abstract of a Paper by H. M. Scudder, M. D., in the Medical Missionary Journal.]

For many years I practiced medicine and surgery among the natives of India as part of my missionary work. There are no acuter intellects on the earth than theirs. In poetry, grammar, logic, mathematics, and especially in metaphysics, the Hindoos have displayed signal ability, but in the physical

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sciences they are only babes. Nothing will more clearly illustrate this than a few allusions to the condition of medical and surgical science and practice among them.

WHAT DO THEY KNOW OF ANATOMY?

Absolutely nothing beyond what they see on the outside of a human being. Caste renders the dead body a source of ceremonial pollution, and nothing can be more repugnant to a well-born Hindoo than dissecting. Hence his notions of the structure of the body are exceedingly fanciful. He soberly declares that the human frame is built upon a skeleton which contains the moderate number of 4,448 bones. He furthermore asserts that in consequence of this, man is obnoxious to 4,448 diseases; a disease for each bone being a logical sequence. He maps out for you the whole inner man, though he has never examined it. He affirms it to be an organism permeated

BY TEN LARGE TUBES.

He describes tubes starting from the pelvis, part of them running upwards to branch out in the trunk, and part downwards to terminate in the big toes. He describes tubes which shoot across the body, diagonally, tubes which form circles, tubes which build arches, tubes which develop into canopies, and tubes which by their convolutions constitute regal seats upon which are enthroned certain Hindoo deities. He describes tubes which end in the eyes and ears, in the tongue and in the bones. The ten principal tubes ramify into the exact number of twelve, 72,000 divisions.

WHAT DO THEY KNOW OF PHYSIOLOGY?

One statement shall suffice. In the ten chief tubes, just mentioned, play ten vital breaths or winds. One breath, moving through its tube causes man to respire; another, urging its way through its tube, forces him to hiccough, and another makes him sneeze; another enables him to bend and stretch, another leads him to wink, another produces smiles, and another elevates the chyle.

WHAT DO THEY KNOW OF PATHOLOGY IN ITS VARIOUS DEPARTMENTS?

As to the enumeration of diseases, I have already stated that there are just 4,448. As to the causes of disease, they are amusing, if not correct. If a man spits upon the hearth-fire, or into a pan of burning coals, he will get asthma. (Would that some such consideration would frighten and restrain the tobacco chewers and spitters of this country.) If a child has thin legs, a large head, and a prominent abdomen, it is because a toad has sometime fallen upon the luckless youngster; and the way to heal him is to catch a toad and confining it for three days in a new waterpot, to draw water from the pot for the daily ablution of the child. The evil eye of a stranger, the sorceries of an enemy, the incantations of a witch, or the hostility of a demon that haunts a neighboring tree or cemetery, are considered efficacious causes of disease. If a mother has a fine, fat babe, she fears even the incautious laudatory remark of a friend. "Your babe is plump and pretty, and eats well," says an admiring female acquaintance. Alas! some malady will fall upon the infant, and to avert it, the troubled mother heats an iron and plunges it hissing into water, with which water she afterward washes the child's face. The Hindoo physician, when no other assignable cause occurs to him, finds a convenient refuge in rat bites. In my dispensary, a patient gravely declared that he was suffering from a pain in his ribs, because twelve years before a naughty rat had nibbled one of his toes. In such cases I gave a decoction of sarsaparilla with iodide of potassium, and found it very successful.

WHAT DO THE HINDOOS KNOW OF THERAPEUTICS?

They, of course, know something of the effects of certain drugs, used separately, or in combination. Especially do the Mohammedans, whose Arabian antecedents are in

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their favor, concoct some good medicines. Moreover, it must be allowed that the Hindoos with their remedies can treat such a disease as "the country sore eye," a form of ophthalmia peculiar to that part of the world, as well as we can with our Western methods; but their utter ignorance of anatomy, physiology, and pathology, and their feeble power of diagnosis, render, in almost all cases, their application of remedies a hit-and-miss practice, in which the missing is the law, and the hitting is the exception. They are zealous dabblers in drugs, inveterate dosers. This is to be expected. The less the man knows, the longer will be the list of his remedies, the more complicated and heroic will be his prescriptions.

Hindoo medical science leans strongly upon magical incantations. A Brahmin once came to me with an immense abscess. He had for a long time endured intolerable agony from the pressure and the tension upon certain nerves. Night after night his medical advisers had muttered their conjurations over the incorrigible swelling, of the nature of which they knew nothing. One plunge of the lancet let out his pain and a stream of pus, to the amazement and mortification of his doctors.

If a person is bitten by a dog the part is to be well slapped with an old shoe, and then treated with burned shoe-leather and the recitation of a magical formula.

If an individual is stung by a scorpion, in order to find relief he dispatches a friend to pronounce in a whisper a mystic verse in the ear of a male buffalo calf. The buffalo is a domestic animal in India. By the time the messenger finds the village herd of buffaloes, selects a male calf, catches it, constrains it to listen to his whispers, and returns, there can be no doubt that the pain of the scorpion sting is mitigated.

Their medical and surgical practice abounds in ridiculous remedies.

If a fishbone sticks fast in one's throat, help may be obtained by worshipping a black cat. Some families that are fond of fish keep black cats for that purpose.

A remedy is sometimes to be applied, first externally and then internally. In case of a local pain on the exterior of the body, one should first apply a poultice of hot rice and oil, and then after it has become cold, should swallow the poultice, thus bringing the healing agent to act on both sides of the pain (the same poultice, first outside, secondly inside). If the pain can hold out against that, it must be considered incorrigible.

Great faith is reposed, in a variety of disorders, upon the efficacy of rhinoceros horn, triturated on a stone and mixed with milk. Also peacock feathers stewed in oil are affirmed to be a soothing application for gunpowder burns. There is some poetry in this, if no curative energy, for what can be more significant of irresistible assault upon disease than the horn of a rhinoceros in the hand of a Hindoo physician, and what more suitable to grace his triumph than the brilliant plume of a peacock.

I will cite one prescription, still more strange, and which is designed to act mechanically. In case the uvula becomes elongated, and the doctor fails in reducing it to its normal state by squeezing the juice of some leaves on the crown of the head, he must select the three central hairs on the top of the head, and seizing them must suddenly and forcibly twitch them upward, in order to bring the refractory little organ into its right place.

WHAT DO THE HINDOOS KNOW OF SURGERY?

Less than of medicine. Totally ignorant of anatomy, what can they do? The barber sometimes screws his courage up to the point of experimenting on a boil with his razor, while his coadjutor, the potter—for these two, the barber and the potter, are the surgeons—can do up a broken limb in rude splints, which he binds so tightly as often to maim the member altogether. The Musselman, belonging to a fierce race, ventures to make a plunge in the eye at an opaque lens. This is done thus: The person with cataract is made to stand. The

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Musselman, armed with a shoemaker's awl, takes position in front of his victim, and tells him to look up. As the eyeball moves up, he dashes the awl into it, just below the cornea. This barbarous operation sometimes succeeds, and generally does not.

The deliberate villainy of native practitioners is astounding. The main object with most of them is to extort money, and they play in a thousand ways upon the fears and credulities of those who employ them. They are full of lies and chicaneries of every sort. A girl was brought to me who was suffering from an alveolar abscess, caused by a bad tooth. There was an external opening through the cheek. Her friends told me that the native physician declared that the disease was caused by the existence of a number of dead flies in the centre of her head, which must be extracted through the ear. He therefore visited her periodically, and working at her ear, and giving her sufficient pain to make the extraction of a fly appear a marvelous operation, he produced the insect, which he held concealed in his hand. I have forgotten how many flies he thus took out of her head; there were several. For each of them he made her parents pay handsomely.

Imagine the physical miseries which are the fruits of such malpractice. Pitiable, indeed, is the condition of the sick and the diseased in India. The council that deliberates for them, consists of the physician with his potions, the stupid barber and the Musselmen with their surgical case containing a razor and an awl, the exorcist drawing his circles and going through his list of trickeries, the astrologer with his book art of which he cites the prognosis that he pretends to have read among the stars; and the wretched patients are to be dosed with the compound tincture of quackery, witchcraft, and astrology prepared by this juggling college of physicians. I may well quote in this connection a proverb current in Hindoostan: "He who has killed off ten patients is a perfect doctor."

INVERSION IN SUSPENDED ANIMATION DURING ANÆSTHESIA.

Professor JULIAN J. CHISOLM, in a paper entitled "A Very Valuable Lesson for Those who Use Anæsthetics," read before the Baltimore Academy of Medicine on December 6, 1887, relates several cases in which inversion of the patient was successfully used in suspended animation from chloroform anæsthesia.

The first and most interesting case was that of a boy three years of age, upon whom Dr. Chisolm wished to operate for cancer of the left eye. When the anæsthesia was complete the operation was begun, but before much progress had been made respiration suddenly ceased. The face assumed a death-like pallor, and the pulse disappeared from the wrist. Immediately the child was suspended by the feet, with body and head hanging down at an inclination of 70 degrees, while an assistant made chest-compression for artificial respiration. After a few minutes signs of feeble respiratory movement were noticed, a slight throbbing of the neck-vessels was detected, and in time the child evinced its return to consciousness by crying. The child would not permit the eye to be touched without moving the head, and as the operation had to be completed chloroform was again administered. Before the operation was begun a second time the child again stopped breathing and the pulse disappeared. The body, apparently of a dead child, was once more hung up by the feet, so as to allow blood to gravitate toward the anæmic head and brain, but with no further attempts at artificial respiration. After a few minutes the large vessels at the root of the neck showed some fullness; then a slight thrill, and after this the first attempt at a thoracic movement appeared. In ten minutes breathing was sufficiently strong to allow the child to cry again.

Chloroform was given a third time, and was very soon followed by suspended animation, and death now seemed to be

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complete. The child was again hung up by the feet. After a little more than five minutes a faint effort at respiration was seen, and when it seemed fully established, though insensibility continued, the child was replaced on the table. As soon as the body was placed in the horizontal position the pulse, not yet strong, disappeared from the wrist, and respiration ceased, requiring a renewal of the suspension. This was repeated three or four times.

Finally the eye was enucleated while the child was suspended with the head downward. It was fully a quarter of an hour after the operation was completed, and the eye bandaged, before the child could be trusted in the recumbent posture; and in all the child was suspended about three-quarters of an hour.

For ten years Dr. Chisolm has not given ether to any patient. For painful operations of very short duration he uses bromide of ethyl, but for all other he gives chloroform exclusively. He has administered chloroform about 10,000 times, and has never had a death. In the administration of the anæsthetic certain rules are followed: All clothing must be loose around the neck. With adults an ounce of whisky is given in advance, though this cardiac stimulant is omitted in persons under thirty years of age, unless the patient be feeble. In old persons, with feeble and irregular heart, the amount of whisky is increased. The whisky is always put into the patient's stomach, where it can be used if needed, and where it can do no harm if it is not needed. Dr. Chisolm has never had occasion to inject whisky or ether into the rectum or under the skin.

Chloroform is administered with the patient lying on his back, and, as soon as narcosis is induced, the pillow is taken from under his head, so as to have him lie in an absolutely horizontal position. Should snoring occur, indicating some difficulty in the pharyngeal breathing, the chin is drawn forcibly upward. This elevation pulls the anterior wall of the pharynx, with the hyoid bone and root of tongue, forward, making for the air a clear and straight passage from the nose into the lungs. By this movement of the chin respiration becomes immediately quiet and easy. The pulling up of the chin is a much more efficient and convenient means of pulling the root of the tongue forward than by pulling out the tongue with a dressing forceps. It is not always easy at this stage of anæsthesia to get into the mouth, as the lower-jaw muscles may not be relaxed. A proper tongue-forceps is not often at hand, and to tear the tongue-substance with sharp-toothed and yet slipping instruments, with the soreness and swelling that subsequently follow, is an abominable practice that should be abolished. The patient's chin and your own hands are always present, and it only needs knowledge of the method to apply it, and to secure prompt and speedy relief.

The form of inhaler used by Dr. Chisolm is a towel folded cone-form, with the apex of the cone open, so as to permit air to mingle freely with the chloroform vapor. During the administration the surgeon watches the patient's face, and, if the ears remain pink, the heart and lungs must be working properly; therefore there is no need for feeling the pulse. Any failure on the part of either of these organs can be seen in the change of countenance and complexion more quickly than it can be felt at the wrist. In Chisolm's clinic chloroform is denied to no surgical patient that needs a more efficient anæsthetic than a local one, such as cocaine. No pathological lesion in any part of the body deters him from the use of chloroform in an eye-operation, should it be required. He has operated about 1,500 times for cataract, and previous to the last two or three years, since cocaine came into use, he gave chloroform for all cataract operations. Probably the average age for cataract patients is sixty years; and most frequently they exhibit decided senile changes. Many of his cataract patients

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must have had fatty heart. So far, after thirty years of active surgical life, Chisolm says that in no single case has he had cause to regret that he chose chloroform as the anæsthetic. He always gives it in the presence of physicians—never alone.

His experience with four cases of sudden arrest of respiration, with failure of the heart's action, has made him a firm believer in the efficacy of inverted suspension for the restoration to life of patients apparently killed by chloroform; and he believes that many of the dead from chloroform might have been saved had the surgeon hung the patient up immediately by the feet, or held them in such a position that the head would have been very low, so as to get all the advantage of gravity in forcing the blood to the anæmic brain, instead of wasting time in applying hypodermic injections, cold-water splashings, spanking, electricity, etc., or even attempts at artificial respiration. Do any or all of these if you will, but hang the patient up first, and that immediately, as soon as the heart and lungs fail. It is the horizontal position that is fatal in chloroform-poisoning, and leads to death if the body is kept in it, as all reports of fatal cases with chloroform show. By suspended animation he refers to the complete arrest of all respiratory movements; not that very feeble state of heart and lung action, accompanied by pallor of the face, which only foreshadows approaching vomiting. This condition is common with many chloroform patients, but is only a signal that the basin must be held in readiness.

These views in regard to the value of inversion in suspended animation from anæsthetics, are in accordance with the results of Nélaton's experiments on chloroformed rats, which show that in chloroform narcosis, the respiratory and cardiac centres are weakened by an anæmic condition of the nervous apparatus, the exposed brains of animals bleaching as chloroform vapor was inhaled by them to complete anæsthesia. When a number of rats had been thoroughly narcotized with chloroform, those that were hung up by the tails slowly revived, while those left lying on the table died. And if, when animation began to show itself in the suspended animal, the rat was taken down too soon, breathing would again cease, and the rat would die unless immediately suspended again. When the animals were not already dead, suspension was the only means that would prevent death.

Of course no one that knows what he is about will ever give an anæsthetic without having some one present. Should there be any sudden and alarming weakening of the heart's action, and of respiration, for they always go together, hang up the patient without a minute's delay. Should the patient be bulky, and should there not be help enough present to elevate the foot of the table or bed, throw the head and body over the side of the table or bed, letting the head hang downwards to receive all the blood that can gravitate into it, holding on to the legs so that the body shall not slide to the floor. A still more efficient plan is, whether the patient is a man or a woman, while you stoop, throw their legs over your shoulders, hang on to their feet in front of you, and then lift yourself up. The patient's body, as you get upon your own feet, will hang from your back, with head down; and now, if you want more help you can call for it. But never leave the patient in a horizontal position while calling for help or doing anything else. If the patient vomit while inverted no harm can result, and the matters from the stomach cannot get into the larnyx.

DIVERTING THE URETERS AND REMOVING THE BLADDER.

The futility of partial operative measures in cancer of the bladder seems to be established. In Vol. XVI, of *St. Thomas' Hospital Reports*, Mr. WALTER EDMUNDS and Mr. CHARLES A. BALLANCE have a contribution on the "Best Method of Diverting

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the Ureters and Removing the Bladder, as shown by experiments upon the Cadaver."

The authors think that malignant disease of the bladder should be looked upon in exactly the same way as cancer of other organs or parts of the body that are not essential to life; in other words, a radical removal of the diseased organ should be undertaken in suitable cases, rather than a scraping, nibbling, or incomplete operation that is certain to be followed by a rapid recurrence of the growth. They hold that as soon as the diagnosis of cancer is certain, by exploration or otherwise, a much more complete operation should be undertaken than is at present in vogue. At best, they believe, the bladder is merely an organ of convenience, and one by no means necessary to life. A man would be better off without a bladder than with one that harbored a cancerous graft. Not a few persons go about comfortably with one urinary sinus; why should not others go about with two? Moreover, when the ureters are diverted the bladder no longer has any active function to perform—it exists simply passively in the body, and its blood supply diminishes in obedience to the lessened physiological activity of the parts; so that, in a given case, if it were decided to divert the ureters and leave the bladder alone, the surgeon might well anticipate a general shrinkage of the parts and a temporary arrest of the disease, or a slower growth of it, as happens in cancer of the rectum when the fæces are diverted by complete division of the colon. Furthermore, it may be noted that in cancer of the bladder, lymphatic gland infection seems to occur only at a later stage, a fact that tells in favor of radical treatment.

The method proposed and recommended is as follows: 1. The first step is to divide and bring out the ureters. They had best be treated on separate occasions, and thus two preliminary operations would be required before any interference with the bladder is attempted.

The ureter can be reached by an incision through the front of the abdomen, somewhat similar to that for ligaturing the common iliac artery, but the most convienent position for the incision, without allowing for variations in the size of different abdomens, is as follows:

The incision is curved with the convexity outward; it commences vertically above the spine of the pubes, at the level of the junction of the middle and lower thirds of an imaginary line connecting the umbilicus and symphysis pubis. From this point it extends outward and slightly upward to within an inch and a half of the anterior superior spine, then upward, and lastly upward and inward in the direction of the umbilicus, until a point is reached vertically above the commencement of the incision. The abdominal parietes external to the rectus are then divided until the peritoneum is reached. The skin and fascia over the rectus corresponding to the incision directions are cut through to give room, but the muscle and its sheath should be left intact. The peritoneum can then be reflected from the iliac fossa until the ureter is seen attached to the peritoneum in the region of the common iliac artery. It adheres by means of some areolar tissue to the peritoneum. If this be not borne in mind the operator will look in vain for the ureter.

When found, the ureter is followed down toward the bladder, and no difficulty will be experienced in applying a double ligature of silk to it at a distance of from a half to an inch from the spot where it enters the bladder wall. It is then to be divided, and the proximal end brought up into the iliac fossa. Next, the lower end of the upper portion of the ureter must be brought to the surface of the body, and this is best effected through a *separate incision*. The position of the opening should be immediately over and about half an inch behind the crest of the ilium—a point that is at least four inches from the large incision. The ureter should be passed through an opening made here,

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which should be just large enough to admit it, and should be secured by fine silk sutures, half an inch or more of the tube being caused to project beyond the surface of the skin. Care must be taken to separate the ureter from its bed for a short distance above the brim of the pelvis, so that it may pass to its new outlet by a gentle curve, and not be bent near the iliac artery at a right angle. It is necessary, too, that the ureter be caused to lie in contact with the posterior muscular boundary of the abdomen after it has been displaced from its old position, so that the parietal peritoneum and the intestines may readily fall back again against the quadratus and the psoas, and into the iliac fossa.

It need hardly be added that great care should be taken to asepticise the upper end of the distal portion of the ureter, that the lesser wound should be securely sealed, so that it may not be the cause, by inward leakage, of infection to the greater, and that the two wounds should be entirely shut off from each other—the larger wound being kept antiseptic and free from the contamination of the smaller at which the urine would flow from the ureter.

Excision of the Bladder.—At the proper time, after diversion of the ureters has been done, the bladder may be excised by the supra-pubic method. A vertical incision is made from the symphysis to about half way up to the umbilicus, the lower border of the peritoneum is found, and the membrane is then reflected off the bladder. This is easily done as far as the entrance to the ureters by means of the fingers, and by the aid of a pair of curved, blunt-pointed scissors to snip off any areolar tissue that cannot be overcome by gentle manipulations with the fingers. The anterior lateral and posterior walls of the bladder are now free from all attachments, and can be removed at the will of the operator. It is not desirable to take away more than the mucous membrane in the region of the trigone in consequence of the vascular and other important relations of the base of the bladder and prostate. Fortunately, carcinoma is limited at first to the mucous membrane, and this can easily be peeled off at the base of the bladder from the muscular coat.

As the ureters extend to the surface of the skin, stricture of one or both of the apertures of exit would not be likely to occur, so that the patients subjected to the plan of treatment above described would be measurably free from the dangers of hydronephrosis and other affections that ensue when urine is directed away from the ureter in other ways and under other circumstances, and that are the common consequences of the obstruction that follows prolonged cystitis, *e.g.*, in cases of extrophy of the bladder and chronic untreated urethral stricture.

For placing a double ligature upon the ureter deep in the pelvic cavity good light is necessary; electric light or strong bright daylight should be used, and directed into the wound by hand mirrors.

The authors call special attention to two points: 1. The good results that would probably follow complete diversion of the urine from the bladder in cases of cancer, quite independent of any further operation upon the organ; under this circumstance a partial operation even would probably be followed by better results. 2. Double urinary fistulæ and their effects upon the kidney should be thoroughly studied upon animals before the operation is attempted upon a patient.

OPERATION FOR ABSCESS OF THE SPLEEN.

Dr. Carl Lauenstein, of Hamburg, reports a very interesting case in the *Deutsche medicinische Wochenschrift*, of December 22, 1887, the first case, in fact, of a cutting operation for abscess of the spleen on record.

The patient was a coppersmith, 23 years of age, who entered the Seaman's Hospital, in Hamburg, on September 17, under a diagnosis of typhoid fever, after having been

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sick for fourteen days. He was in a febrile condition, with a pulse of 96, tongue red at the edges and white in the centre, had been suffering with diarrhœa, and his abdomen was somewhat tympanitic. Splenic dullness was very much increased, extending in the axillary line from the lower border of the fifth rib forwards and downwards to the free border of the ribs, and backwards to within less than an inch of the spinal column. From the middle line forwards it encroached on the region of normal cardiac dullness, and over the somewhat enlarged dull region of the left lobe of the liver. The spleen was not palpable through the abdominal wall, since the patient did not use the diaphragm in respiration, and during inspiration there was some retraction of the epigastric region instead of expansion of the abdomen. The patient complained somewhat of pain in the splenic region, though there was no sensitiveness on pressure. There was no pulmonary abnormality, except an unusually high position of the diaphragm, and some friction sounds at the boundary of the base of the left lung.

Under a fluid diet, wine and hydrochloric acid internally, and the wet pack externally, the condition of the patient was not materially changed. The temperature fell in the morning, and rose in the evening to 39° C. Three days after entering the hospital the patient had a severe rigor, with a rise of temperature to 40° C., very small pulse, 128, and cyanotic lips. He then complained of increased pain in the splenic region, the dullness of which was not increased forwards and downwards, but above and behind was markedly increased. The dullness reached about one and a half inches above the angle of the scapula, and had an extent of thirty-five by eighteen cm. With the exception of the fixed condition of the diaphragm, and the marked friction sound at the base of the left lung, there was no abnormal thoracic condition.

On the day after the rigor there was a severe collapse, with a fall of temperature to 35.4°C., small pulse of 72, and coldness of the extremities, from which the patient was aroused only after the use of stimulants and heat. As the pain in the splenic region continued after the rigor, Lauenstein concluded that there was a purulent collection in the spleen; and on the fifth day after the patient entered the hospital he operated.

After the patient was anæsthetized the needle of the Dieulafoy aspirator was inserted in the eighth interspace in the axillary line, at the site of spontaneous pain, and about the middle of the anterior portion of the splenic dullness. The needle was pushed perpendicularly downward about two fingers' breadth, but no fluid was obtained until it was withdrawn carefully about two cm., when a small quantity of chocolate-colored fluid escaped, which had a penetrating fœtid odor. The needle was kept in place, and in order to empty the abscess thoroughly about ten cm. of the ninth rib were resected, this rib being selected in order to avoid wounding the pleura. In order to avoid hæmorrhage the thermo-cautery was used to cut down under the resected rib and parallel to it. Though the spleen was lying close to the diaphragm it was not adherent to it at the place of incision. After the cautery was carried down about two cm. into the splenic tissue a chocolate-colored fluid welled up by the side of the cautery. The incision in the spleen was now widened to the extent of the resection of the rib, and the borders of this incision were brought up against the wall of the thorax and fixed there by means of sharp hooks.

When the finger was introduced into the incision in the spleen it entered a cavity about the size of a goose's egg, the walls of which were very friable, and in which several loose fragments of tissue were found, that were removed with forceps. The cavity was washed out with cold salicylic acid solution, and then tamponed with iodoform gauze; the whole was then covered with an antiseptic dressing. Microscopic examination showed that the

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pus contained in the cavity was composed of pus-cells, some red corpuscles, fatty acid crystals, and crystals of hæmatin. No pus cocci or typhoid bacilli were found in the pus. The dressing was renewed on the fifth day after the operation, when it was seen that the spleen was adherent to the thoracic wall and to the diaphragm. Splenic dullness was at this time much lessened. For several days after the operation the temperature was about normal, but then rose, and the subsequent course of the illness was that of a case of typhoid fever. On October 11, the patient was entirely free of fever, but had the characteristic paleness, emaciation, and ravenous appetite of a typhoid convalescent. At the middle of October the cavity in the spleen had filled with granulations, and the thoracic wound was almost cicatrized. When the patient left the hospital on November 5, the area of splenic dulness was about 16 x 11 cm.

Lauenstein thinks it likely that the abscess was embolic, and it is known that embolic abscesses are most frequent in the course of the infectious diseases, such as scarlatina, diphtheria, typhoid fever, and pneumonia. Without the operation the termination of this case could scarcely have been otherwise than fatal, from rupture and purulent peritonitis, or rupture into the pleural cavity. Lauenstein thinks that in this case the abscess was one arising in the course of typhoid fever, and that the most rational and most surgical treatment was the one adopted. For the treatment of such abscesses conclusions must be drawn from the results of treatment of abscesses of other internal organs, especially of the liver. The best results in abscess of the liver have not been obtained by puncture or aspiration, but by free antiseptic incision, the mortality of the Lindemann-Landau and Volkmann operations, which are by free openings, being, according to Lauenstein, only 4.7 per centum. While Barbieri and Parzewski cured two cases of abscess of the spleen by puncture and aspiration, in both cases the splenic enlargement and abscess were accessible through the abdominal walls, which was not true in Lauenstein's case.

Lauenstein calls attention to the two important steps in his operation:

1. Puncture before incision, by which the danger of an escape of the purulent contents from the distended cavity was avoided.

2. Leaving the cannula in the abscess until the opening was completed, so that it served for a guide for the thermo-cautery. He also regards it as a wise provision of nature that fixed the diaphragm so completely before the operation. Had the diaphragm continued to work as usual it is almost certain that the abscess would have been ruptured, and the contents extravasated. The circumscribed pleuritis, also, at the base of the left lung was a consideration, since it caused adhesion between the diaphragm and the costal pleura, without which the pleural cavity would probably have been opened at the operation, which would have seriously complicated matters.

Lauenstein gives the following points in the diagnosis of abscess of the spleen, besides the presence of an infectious disease, changes in temperature, rigors, etc.:

1. Enlargement of the area of dullness.

2. Spontaneous painful sensations.

3. Inflammatory phenomena in the region of the spleen, basal pleuritis, and fixed position of the diaphragm. Fluctuation must not be waited for, since it can be detected only in case the enlargement is below the free border of the ribs.

AN INTERESTING CASE OF CHOLECYSTOTOMY, WITH RECOVERY.

On February 14, M. POLAILLON reported to the Academy of Medicine, of Paris, a case of cholecystotomy performed by M. TERRILLON, and followed by recovery.

The patient was a woman, æt. 24, who had had no previous liver trouble until she noticed a tumor in the right side, which was easily felt below the free border of the ribs by Terrillon. It was very large and

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extended to a point below the umbilicus. The skin over the tumor was normal, the umbilical cicatrix regular, and there were no enlarged subcutaneous veins. Palpation showed the tumor to be as large as the head of a fœtus, tense, elongated vertically, smooth, and very movable transversely. It did not appear to follow the respiratory movements. Its extent was easily made out by percussion. Its dullness was co-extensive with that of the liver; in other respects percussion of the abdomen was normal. There was no icterus, no pain, and no serious inconvenience of any kind, though there was some dyspepsia and emaciation. The urine was normal.

It was evident that the tumor was connected with or adherent to the liver. No exploratory puncture was made, but Terrillon determined to make an exploratory laparatomy. The operation was performed on November 23, 1886. A median vertical incision was made, about four cm. long, and afterwards enlarged to eight cm. When the abdomen was opened the lower border of the liver was easily seen, as it was lower than normal. Co-extensive with the lower border and attached to the inferior surface was an elongated tumor, which descended very low, had bluish walls, was very fluctuant, and of a cystic appearance. The exploring finger showed that the tumor was the distended gall-bladder. Puncture with a capillary trocar gave issue to a liquid as clear as water, but a little thicker, the last drops of which were of a milky whiteness. It was then found that the bladder contained a calculus as large as a cherry, The bladder was then drawn partly out of the abdomen, sutured to the abdominal wound, and opened. Its walls were very vascular, and hæmorrhage was guarded against by means of forceps, and the cavity was explored.

The calculus first found was easily extracted, though it was adherent to the bladder by a thin filament. The exploring finger then found at the summit of the bladder a second calculus imbedded in the mucous membrane. It was so deeply imbedded that at the distance it was from the opening it was impossible to detach it; the bladder was drawn farther out, so as to lessen the depth of the cavity, when the stone was removed in fragments with the forceps.

Having resected a portion of the base of the bladder, the operator sutured it to the abdominal wall, making a biliary fistula in which two drainage-tubes were placed; a dressing was then applied. In about a month the fistula was so far closed that it admitted only a very small filiform bougie. Bile flowed abundantly from this orifice, generally between 9 p. m. and 2 a. m.—about four hours after the last meal of the day. Two cauterizations with the thermo-cautery caused the fistula to close completely two months after the operation. Meanwhile the patient had gained flesh, and had completely recovered.

In commenting upon the case M. Polaillon says that generally the most favorable incision for cholecystotomy is one along the external border of the rectus muscle of the right side. But in order to have more room one must sometimes add to this a more or lese transverse incision a little below the border of the costal cartilages. Terrillon's incision, however, was primarily intended for an exploratory laparotomy. Opening the gall-bladder may cause hæmorrhage, which must be controlled by means of hæmostatic forceps, or to extravasation of bile, which must be prevented at all hazards by drawing the bladder out and protecting the peritoneum by aseptic sponges. Suture of the abdominal wall completes the operation in cases in which there is no calculus. A biliary fistula is established, and the most pressing danger, intra-peritoneal rupture of the gall-bladder, is averted.

When there are calculi, these must be removed, and the operator must remove all obstructions from the cystic and common duct, so that the bile may escape normally into the intestine. Extraction of the calculi is sometimes a serious difficulty, and

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Fauconneau-Duferesne recommends diminishing their size by crushing with a small lithotrite. Sometimes it is very difficult to tell during the operation whether all the calculi have been removed, and if all are not removed the operation does not accomplish its end.

The mortality of cholecystotomy, excluding the fatal cases not due to the operation, is about 16 per centum. It is then a serious operation, but it must be borne in mind that it is performed on patients whose lives are actually in danger. Polaillon advises that the operation be always preceded by an exploratory puncture, so as to confirm the diagnosis. The Academy adopted the conclusions drawn by Polaillon.—*Bulletin de l'Académie de Médicine*, No. 7, 1888.

PERSONAL HEALTH-RULES IN TIME OF CHOLERA.

Sanitätsrath Dr. PAUL SACHSE, of Berlin, acting on what he believes to be a well-grounded supposition that cholera is due to the cholera bacillus, has made out a set of health-rules, to be freely distributed in time of cholera, so that "everyone can carry a copy in his pocket, and hang one on his mirror, or on the wall like a calendar." The rules are as follows:

Cholera is caused by infection by the microscopic organism called the comma-bacillus, on account of its peculiar form in cholera. These get into the human intestine, increase rapidly under favorable circumstances, and cause the peculiar symptoms of cholera, which always begins with an apparently harmless diarrhœa, that continues for several hours before the disease breaks out with force and becomes dangerous to life.

The possibility of infecting one's self in time of cholera with the bacillus is increased a thousand fold by assemblages and intercommunication of people. The outbreak of the disease is favored by anything that causes any stomach or intestinal trouble.

Since we have no absolutely certain means of controlling cholera after it has broken out, we should especially beware of becoming infected, and should take all precautions to kill, or at least to render as harmless as possible, the cholera germ before it gets into our bodies; and by a regular mode of living and prudent deportment avoid anything that can disorder the digestive apparatus.

Since the cholera germ gets into the stomach and intestines by way of the mouth, we should take care:

1. To take only cooked food and drink. This is the most important rule. Even the water used for washing, rinsing, and bathing should be free from germs, and in cities water from wells should never be used, but only that from the city water-pipes.

2. To keep the body clean, and especially the hands, by frequent washing, especially before meals; and this should be done with disinfecting solutions, such as a 5 per cent. solution of carbolic acid (or a $\frac{1}{8}$ per cent. solution of sublimate), and of this in time of cholera at least a quart should be used for washing the hands.

3. To live judiciously and carefully in time of cholera; and

(a) Not run away.

(b) Not to harbor people from cholera places.

(c) Not to visit a house in which there is cholera.

(d) Still less to eat or drink anything in such a house.

(e) Especially to take nothing, food, linen, laundry, playthings, or anything else, from houses in which there is cholera.

(f) To avoid in every way anything that may disturb digestion. Therefore:

Avoid taking cold, and sudden cooling off after being heated.

Do not sit up late at night with friends (drinking cold beer, for example).

Do not wear clothing that is very thin, and do not take off underclothing suddenly.

On no account bathe in running water.

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Water-courses often bear the germs of cholera.

Avoid collections of people, fairs, festivals, etc., of all kinds.

4. All kinds of food are to be avoided that may cause catarrh of the stomach and intestines; so also, over-eating and over-drinking are to be avoided.

What may one eat and drink? What is forbidden? What allowed?

FORBIDDEN!!	ALLOWED.
Unboiled water.	Boiled water, with or without cognac, arrac, or red wine.
Raw milk, raw cream, sour milk, and whipped cream.	Good soda or seltzer water, and natural mineral waters.
Butter and buttermilk.	Red wine.
Fresh baked bread.	Good lager beer.
All cold soups.	Coffee, tea, cocoa.
Cold cut meat that has stood for a long time.	Baked bread must be heated for one-half hour before being used.
All kinds of salad.	All well-cooked soups.
Mayonnaises and crêmes.	All hot (boiled, roasted, or stewed) meats.
Raw fruit, and unfermented fruit-juices.	All kinds of cooked vegetables (potatoes, rice, asparagus, green pease, cauliflower), and macaroni.
Cheese.	Fresh-cooked, warm compôtes.
Cookies.	Eggs, and egg preparations.
Ice.	Puddings.

GOOD DAILY DIET.

Early Breakfast.—Coffee, tea, or cocoa (with or without well-boiled milk), eggs, bread that has been well heated and dried in an oven or stove for one-half hour (bread that has been cooked a second time) *without* butter.

Breakfast.—Bouillon with egg, bread as above, warm meat, wine.

Noon meal.—Hot soup, boiled, stewed, or roast meat, vegetables, fresh cooked compôte, red wine, or good beer.

Tea.—Coffee or tea.

Supper.—Tea, or soup made from the meat left over at the noon meal, with the morning's bread, or warm meat. Wine or beer as above.

5. Every irregularity of the body should be most strictly guarded against in time of cholera. Apparently slight diarrhœa should on no account be neglected, but a physician should be consulted at once.

ANTISEPTIC AND ANTIPYRETIC TREATMENT OF PHTHISIS.

Dr. W. H. SPENCER, in a paper read before the Bath and Bristol Branch of the British Medical Association, gives the complete records of two cases of acute tubercular phthisis, treated antiseptically and antipyretically, one of which died of profuse hæmoptysis just as recovery was almost assured; the other recovered completely. Both cases passed into acute tubercular phthisis from acute pneumonia.

In the first case a mixture of sulphuric acid, bark, and ether was used pretty continuously throughout the case, and along with the other remedies. Cod-liver oil was taken at intervals and for short periods, but it was not well borne. Kairin and quinine were used as antipyretics. The former always quickly reduced the temperature, and effectually; but, as is usual with all antipyretics of its class, the fall of temperature was transient, and the resulting depression was marked. Quinine was used in large doses at intervals only, and for a short time, without any effects as to the general progress of the case. For general treatment in the second case, a mixture of sulphuric acid and quinine (four grains), or one of perchloride of iron and quinine, was used almost throughout the case. Cod-liver oil was borne well, and taken for a considerable time. Salicylic acid and quinine were used as antipyretics. The former produced good effects as regards steady and continuous reduction of temperature. But, notwithstanding its combination with ether, the depressing effects were sometimes a source of anxiety. A special feature in the treatment of these cases was the method of using quinine, in moderate doses, to control pyrexia—a method attended with unqualified success.

The local treatment consisted in the use of, first, iodoform, which was given in pill form in doses of one grain, six grains in twenty-four hours. It was given for long periods in both cases. In the second case it was given alone, and was well tolerated. In the first case it was combined with one grain of quinine, and one-eighth grain of hydrochlorate of morphine, but no advantage was gained. On more than one occa-

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sion the attempt was made to increase the dose to two grains, but this always caused pain and gastric distress. The iodoform was taken by this patient for nine months continuously, with the exception of two weeks. Secondly, inhalation of vapor of the oil of eucalyptus. This was used only in the second case, and here along with the iodoform. The vapor was inhaled by means of a celluloid respiratory inhaler, worn continuously except when taking food or sleeping. No nausea or other unpleasant effect resulted. Finally, a liberal diet was allowed throughout the cases. As soon as the patients began to experience the good effects of the iodoform, the appetite improved remarkably, and good food was supplied without stint. From an early period after the return of the appetite some stout was taken with the dinner.

As regards the general principles of the treatment, everyone knows what they are. But as regards the special methods of the treatment by iodoform and eucalyptol, or both together, let me say:

1. I see no reason to doubt that, when iodoform is given in doses which the stomach will tolerate well, and given frequently and continuously for long periods, it is absorbed into the circulation; and in the lungs, in whatever form it be, manifests its antiseptic (shall I say also antibacillary?) properties. The good effects of iodoform so administered, in phthisical conditions, is too unequivocal to be gainsaid, however they may be produced.

2. I see no reason to doubt that, when the vapor of the oil of eucalyptus (or other antiseptic vapor that can be tolerated equally well) is inhaled continuously and for long periods, it reaches the residual air in the lungs, and so externally, as it were, bathes the affected tissues or suppurating cavities that may be open to the ingress of the air.

3. That so, I apprehend, we may have antiseptic remedies, not antagonistic, brought up on two sides to the sites of inflammatory lung lesions, or the sites of bacillary activity; and these antiseptics, mutually co-operative, do affect for good both the inflammatory process and the bacillary activity, and bring about repair by the mode of organization after suppuration or fibroid substitution.

4. I think it is both correct and desirable to treat the pyrexia of acute phthisical processes, whether the temperature be high or moderate, by and for itself. I think no other special antipyretic than quinine should be used in phthisis; and quinine serves other purposes as well when used as an antipyretic in moderate doses.—*British Medical Journal*, January 28, 1888.

SULPHATE OF SPARTEIN.

A report upon the clinical action of sulphate of spartein, from the clinic of Professor Nothnagel, in Vienna, and based upon eight cases of valvular disease of the heart, four of emphysema, two of pleuritis, and one of catarrhal icterus, appeared in a recent number of the *Medicinisch-Chirurgisches Centralblatt*. From the observations made in the cases mentioned the following conclusions are drawn:

1. Sulphate of spartein is an active cardiac stimulant in small doses. The contractions were more efficient, the pulse fuller, the arterial tension increased, and the frequency of the pulse usually diminished a few beats.

2. The action occurs in from three-quarters of an hour to one hour after administration, often continues longer than twenty-four hours, and can be increased by a repetition of the dose during this time. After a number of days of its employment a cessation of administration is necessary, as it then again acts more strongly. It may be employed for periods longer than a week without ill effects.

3. The disturbance in the rythm of the contractions of the heart will occur again only in a few cases. In the more severe cases of heart-lesions the smaller contractions become indeed more marked, but the

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force of the stronger is not correspondingly increased.

4. The frequency of respiration is sometimes increased and sometimes diminished, after the administration of the remedy.

5. The diuretic effect often corresponds with the increased force of the contractions of the heart.

6. A secondary slight narcotic effect frequently occurs in the form of increased calm and slumber.

7. With the small doses of one to four milligrammes (1-60 to 1-15 grain), symptoms of intoxication, dizziness, headache, palpitation, and nausea, only seldom occurred, were slight, disappeared quickly, and did not re-appear if the dose was repeated. Spartein can properly displace the infusion of digitalis, but its action appears to increase too rapidly and not to remain at the maximum long enough for it to combat the severe disturbances of compensation, and one can not obtain, through repeated doses of it, such permanent increase in cardiac power as can be obtained by the use of digitalis.

It, however, possesses a great advantage in precision of dosage.

Its therapeutic indications are as follows:

1. In valvular lesions in the stage of disturbance of compensation, when the pulse is moderately full and strong.

2. In valvular lesions without marked disturbance of compensation, as a regulating and quieting remedy.

3. In insufficiency of the heart-muscle without valvular leisons.

4. In pericarditis.

5. As a duretic it is inferior to other medicines.

6. As an adjuvant in connection with digitalis.

CIRCUMCISION IN THE ADULT.

Mr. CHARLES A. BALLANCE says, in a communication in *St. Thomas' Hospital Reports*, Vol. XVI, that the pain and discomfort that follow circumcision in the adult are often very considerable. It has occurred to him to use in this operation the same dressing that it is customary to use after experimental lesions in animals, when every effort is required in order to obtain asepsis and the primary union of the wound; for such experiments will often fail unless the antiseptic or aseptic precautions are successful. The technique of the operation he proposes is as follows:

When the patient is etherized the outline of the posterior border of the glans is marked on the skin with an aniline pencil. The mucous membrane is next cut away, leaving only a free edge of about one-eighth of an inch in width. Any bleeding that occurs should be entirely arrested, and asepsis should be insured by frequent sponging with carbolic or sublimate solutions. Numerous horse-hair stitches are then inserted, so as to bring accurately together the fresh-cut edges of the skin and mucous membrane, and subsequently, after a further sponging and drying, a piece of gauze two layers in thickness, and wide enough to reach from the root of the penis nearly to the meatus, is wrapped *loosely* around the penis, and secured by several applications of the collodion brush, so that the air is kept in motion, and the patient should not be allowed to recover from the anæsthetic until the dressing is quite firm and hard.

In this manner the penis is protected by a kind of carapace, and the patient is relieved from the pain and tenderness attendant upon contact with the bedclothes or other objects. In fact, the organ can be handled as if no operation had been performed. It is hardly necessary to add that erections, which are under the usual conditions so painful, can not occur.

The points to note are: 1. The operation must be aseptic. 2. The gauze should be applied *loosely*. The dressing can be made to extend, at the will of the operator, as far forward as the meatus; but half an inch from the corona is ample. If the dressing has been put on rather tight, and some

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swelling of the glans behind the dressing occur, the collodion dressing can be extended forwards as the urethea, or iced dilute subacetate of lead lotion may be used. For removing the dressing slit it up with a pair of blunt-pointed scissors. It is usually worn for about a week. As yet I have never found it necessary to apply it a second time.

ELECTRICAL TREATMENT OF SALPINGITIS.

At the meeting of the Société de Médecine, of Paris, on February 11, M. APOSTOLI read a paper on this subject, in which he drew the following conclusions:

1. The fever and inflammatory state are not an absolute indication in gynæcology to the methodical and appropriate application of the electric current.

2. Non-inflammatory suppurations of the uterus may be advantageously treated by the constant current, which, if it is favorable in congestive periods and inflammations of the first degree, appears to me, nevertheless, to be contra-indicated in cases of confirmed suppuration. I make an exception of the cases in which electric cauterization, in the tubular form, serves to create with the pus, near the vaginal wall, a more favorable and surer tissue.

3. The penetrating galvano-caustic, in the form of galvano-puncture, is a precise method that may serve a double purpose: (*a*) To absorb a phlegmasia at the beginning, and to arrest an inflammatory process in its evolution. (*b*) To permit easy evacuation of a fluid collection through the channel made by the puncture, provided this collection is in the vaginal cul-de-sac.

4. Every inflammatory exudation occurring in the vaginal cul-de-sac may be justifiably treated by the penetrating galvano-caustic (under restrictions to be mentioned).

5. This method may be applied with success to certain cases of salpingitis and hydro-salpingitis, and with so much the more ease and harmlessness as the tumor is nearer the vaginal wall.

6. In every galvano-puncture the operator should rigidly observe the rules already laid down concerning the site of puncture, its depth, the size of the trocar, antiseptic precautions, the rest of the patient, etc.

7. Only two negative vaginal galvano-punctures, in a case of acute hydro-salpingitis, are sufficient to cause very rapidly a considerable anatomical regression and an absolutely symptomatic cure.—*Gazette de Gynécologie*, March 1, 1888.

EPIDEMIOLOGY OF THE SECOND QUARTER OF 1887.—The following figures come from the official report of the health-office in Berlin: During the second quarter of 1887, there died in German cities of more than 15,000 people each, 60,294 people, a mortality of 23.6 per 1,000; in those of Austria 45,546, a mortality of 19.8 per 1,000; and in English cities 10,586, a mortality of 19.8 per 1.000. Of persons under one year of age there died in German cities 30.2 per cent. of all deaths, and in English cities 23.3 per cent. In German cities 8,891 died of phthisis, in Austro-Hungarian cities, 6,579. In this quarter typhus carried off 140 in Moscow, 4 in Königsberg, and 1 in Vienna. Typhoid fever carried off in Germany 433 (44 each in Hamburg and Berlin), in Austro-Hungary 287 (14 in Vienna), in Moscow 110, in London 86, in New York 121, in Chicago 64, and in Cairo 184. Diphtheria killed in German cities 2,466 (310 in Berlin, 163 in Hamburg, 114 in Breslau, 63 each in Dresden and Leipzig), 557 in Austro-Hungarian cities (58 in Vienna), 328 in English cities (193 in London), 187 in Moscow, 880 in New York, and 307 in Chicago. Died of scarlatina in German cities 449 (36 each in Berlin and Cologne), Austro-Hungarian cities 360 (97 in Vienna), 596 in English cities (192 in London), 109 in Moscow, 165 in New York. Measles killed in Germany 1,263 (409 in Munich), in Austro-Hungary 667 (298 in Vienna), in

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England 3,114 (1,227 in London), in New York 142, and in Chicago 166. Only 29 persons died in large cities of Asiatic cholera (5 in Bombay, and 24 in Madras.) Small-pox killed in Germany 18, in Vienna 23, in Moscow 20, in Lisbon 44, Genoa 36, East India 56 (52 in Bombay), Cairo 16, Alexandria 30, and New York 48. Acute diseases of the respiratory organs killed in German cities 7,555 (750 in Berlin, 325 in Hamburg, 263 in Munich, and 234 in Breslau), in Austria 3,591 (984 in Vienna). Diarrhœa and cholera-morbus killed in German cities 3,551 (1,331 in Berlin), 1,607 in Austro-Hungarian cities, and 576 in English cities.

PILOCARPINE IN BRIGHT'S DISEASE.—The Vienna correspondent of the *British Medical Journal* says that Drs. BENEZÚR and C. CSATÁRY of Buda-Pesth, give in a recent number of *Orvosi Hetilap* the following summary of a series of articles on the effect of pilocarpine chloride in Bright's disease:

1. The patients become accustomed to the pilocarpine, and even large doses, such as six centig., do not at a later period produce such disagreeable after-effects as doses of one centig. at the beginning of the treatment. The injections of pilocarpine should not be discontinued in consequence of symptoms that had been considered as being dangerous. 2. The effect of pilocarpine on the daily secretion of saliva, sweat, and urine, as well as on the daily oscillations of the amount of hæmoglobin in the blood, is in most cases regulated by the stage of the disease and the quantity of liquid that had been taken. 3. The œdema disappeared the more rapidly the larger the dose of pilocarpine given, and the less the quantity of liquid that the patient had taken. 4. Pilocarpine considerably increases the density of the blood for from four to five hours. 5. The hydræmia in Bright's disease does not depend on the amount of œdema. 6. The quantity of hæmoglobin in the blood diminishes; that is to say, the hydræmia increases when the general condition of the patient becomes impaired during the progress of the disease. 7. When used according to the above-mentioned principles, pilocarpine will be found in most cases of Bright's disease, even when hot baths and diaphoretics prove useless, always to diminish dropsy to such an extent that the patient is more or less protected against dangerous uraæmic suffocative attacks. In this way it may be possible to effect a relative cure; that is, in secondary granular contracted kidney.

SUBCUTANEOUS SEPARATION OF TRACHEA AND LARYNX.—NOLL, of Hanau, reported at the sixtieth Versammlung Deutscher Naturforscher und Aerzte, in September, 1887, the case of a workman who received a blow from a piece of machinery on the front part of his neck. The skin was not wounded, and only a little blood was coughed up. The neck soon became very much swollen, and attacks of suffocation came on. On performing tracheotomy Noll found that the trachea was separated from the larynx, and was very much retracted, and that the cricoid and thyroid cartilages were fractured. The trachea was drawn up and sutured to the larynx, and a cannula introduced. Later, this could not be removed because of cicatricial contraction. The usual methods of dilatation failed, and a laryngo-fissure was made, in which a Dupuis' cannula was worn for nine months. The trachea and larynx are now completely grown together, and the patient is in as good condition as before, except that his voice is somewhat hoarse—*Deutsche med. Wochenschrift*, No. 52, 1887.

SIMPLE PUNCTURE IN EMPYEMA.—WÖLFLER, of Gratz, recently reported to the Society of Physicians, of Styria, a case of empyema cured by simple puncture. The empyema had developed spontaneously, and was probably due to tuberculosis. Puncture was made with a trocar between the sixth and seventh ribs, on the

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left side, and the pus evacuated by siphon drainage. The lower end of the rubber tube communicated with a bottle filled with antiseptic fluid, and was left in till no more pus escaped. Healing took place very rapidly, and this method seemed to be preferable to extensive resection of ribs. Wölfler has recently treated three patients successfully by this method. They were told to carry the bottle, with the drainage apparatus, till no more pus escaped.

ANTISEPTIC POCKET CASE.—The necessary elements in antisepsis are soap, a brush, and an antiseptic, the latter capable of accurate dosage, and colored, that it may not be mistaken for something else. One finds soap in every house, but the other two elements must be carried. Dr. Egli-Sinclair recommends, and has used satisfactorily for months, a case containing a nail-brush and a bottle containing the following solution:

Hydrarg. chlor. corros.	40.0
Ammon. chlorat.	8.0
Nacht blau	0.8
Aquæ distillatæ	200.0

The stopper of the bottle is hollow, and holds enough of the fluid to make, when added to one litre (about two pints) of water, a 0.1 per cent. sublimate solution, strongly colored blue, which even a layman can not fail to recognize. Such a case is especially commended to obstetricians and midwives.—*Correspondenz—Blatt für Schweizer Aerzte.*

INHALATION OF CARBONIC ACID GAS IN DYSPNŒA.—Dr. EDWARD WEIL has used inhalations of carbonic acid gas to relieve dyspnœa, and with favorable results. He thinks that the good effect is due to the abolition of reflex sensibility of the pharynx and larynx. The patient inhales the gas for from two to five minutes once or twice a day, in quantities of from two to four litres. When the inhalations are made during dyspnœa this is cut short, and the patient breathes easily and comfortably. When the gas is given between the attacks inspiration becomes more free, and the attacks are prevented, or diminished in frequency, intensity, and duration.—*La Semaine Médicale*, March 7, 1888.

BOOK-REVIEWS.

THE RULES OF ASEPTIC AND ANTISEPTIC SURGERY. A Practical Treatise for the Use of Students and the General Practitioner. By ARPAD G. GERSTER, M. D. Pp. vi and 332. New York: D. Appleton & Co. 1888. Chicago: A. C. McClurg & Co.

"Prevention has become the watchword of modern practice, and it can be said that, by the successful employment of the preventive methods of the present day, surgery has become a conservative branch of the healing art." This treatise is the result of an attempt on the part of the author to illustrate the truth of the quotation given, and of the following one, both from the preface. "It can not now be successfully denied that the surgeon's acts determine the fate of a fresh wound, and that its infection and suppuration are due to his technical faults of omission and commission." The truth of this last statement is just as unhesitatingly admitted by all qualified surgeons to-day as it would have been unhesitatingly denied by equally qualified men twenty years ago. Indeed this fact in regard to suppuration in fresh wounds is so fundamental that no one who doubts its truth ought to practice plastic surgery. The fact that many practitioners do their surgical work either in ignorance or disregard of this principle is ample excuse for the stress laid upon it in this connection.

The book is subdivided into five parts: Asepsis, Antisepsis, Tuberculosis, Gonorrhœa, and Syphilis. As this division of the general subject indicates, the discussion of the special subjects of surgery is both new and unique. The author particularly disclaims any attempt at completeness—"the inclusion of al of the disciplines of surgery"—but to illustrate the changes in wound treatment in practical surgery, and "to place before the profession a vivid and true picture of contemporaneous surgical methods." As far as possible the principles discussed are illustrated by actual cases taken from the author's practice.

The illustrations, a special feature of the book, are from photographs of actual cases, and demonstrate the steps of the operations described, from the application of the aseptic protective bandages and dressings, applied before beginning, to the completed dressing at the close of the operation, when

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the patient is ready for removal. No illustrations could be more striking of the difference between the old and the new practice. They are prepared by the photo-engraving process and resemble actual photographs very strongly. This method of illustration of medical books is new, and is a welcome innovation. There are two hundred and forty-eight of the illustrations, and, with few exceptions, they are not pictures of instruments.

The author is to be congratulated, both upon the undertaking and upon the success with which he has accomplished it. Instead of containing a lot of material which all others upon the same subject contain, it is filled with matter which no other book of its kind contains. It is not exaggerated praise to say that it is the most important contribution to surgical literature which has appeared in this country in recent years.

The manner in which the publishers have done their work is beyond unfavorable criticism.

E. W.

THE PRACTICE OF MEDICINE AND SURGERY APPLIED TO THE DISEASES AND ACCIDENTS INCIDENT TO WOMEN. By W. H. BYFORD, A. M., M. D., Professor of Gynæcology in Rush Medical College, and of Obstetrics in the Woman's Medical College, etc., and HENRY T. BYFORD, M. D., Surgeon to the Women's Hospital, of Chicago; Gynæcologist to St. Luke's Hospital; President of the Chicago Gynæcological Society; Member of the American Medical Association, of the Illinois State Medical Society, and of the Chicago Medical Society, etc. Fourth edition; revised; re-written and very much enlarged; with 306 illustrations. Philadelphia: P. Blakiston, Son & Co. 1888.

It is hardly necessary to say anything of this work, except that the additions and revisions bring it fully up to the date of publication. Dr. Byford is so well known, and his work has been so generally accepted as one of the very best upon the subjects of which it treats, that the simple announcement of a new edition might suffice. We can not, however, omit the opportunity to note the views of the authors upon the subject of oöphorectomy. As to the results of the operation, or rather the nature of the change accomplished, it, of course, arrests ovalation, and, in a large majority of cases, uterine hæmorrhage or menstruation. This produces menopause, but, say the authors, "we should not forget that menopause is not change of life."

"Senile menopause, one of the symptoms of the change of life, is the consequence of gradual changes in all the organs concerned. This change is a degeneration of the genital organs." The question of the influence of the ovaries upon the nutrition of other portions of the sexual apparatus is touched upon, especially in its bearings upon uterine fibroids, as follows: "The removal of the ovaries in the presence of a large fibroid and hypertrophied uterus, simply takes away their governing agency before the process of degeneration has begun." A doubt is expressed as to the value of such a procedure in the case supposed. The conclusion of a discussion of the difference between the effects of a natural change of life and oöphorectomy upon fibrous tumors of the uterus is in the following words: "I do not wish to be understood as opposing oöphorectomy; they (the reflections), however, make me hesitate to give an unconditional adhesion to the practice, even when in our present knowledge it would seem indicated."

"For intolerable and incurable cases of oöphoroneurosis" the authors, however, consider the operation as often most helpful. Even here a careful inquiry should be made as to the cause or causes of the condition, with a view to remedy the trouble by some other means. They say: "Then the question comes up, whether we ought to spay our patient or prescribe and enforce the proper amount and kind of primitive living necessary to revolutionize her nervous functions?" It will gratify a large number of the members of our profession to see upon the title page the name of Dr. Henry T. Byford. The careful reader, acquainted with his contributions to the literature of this specialty, will recognize his valuable assistance in the work of revision and rewriting.

RECTAL AND ANAL SURGERY; WITH A DESCRIPTION OF THE SECRET METHODS OF THE ITINERANTS. By EDMUND ANDREWS, M. D., LL. D., Professor of Clinical Surgery in the Chicago Medical College, Senior Surgeon to Mercy Hospital, and E. WYLLYS ANDREWS, A. M., M. D., Adjunct-Professor of Clinical Surgery in the Chicago Medical College, Surgeon to Mercy Hospital. With original illustrations. Chicago: W. T. Keener. 1888.

This little book, of 111 pages, has been written and published to answer two questions concerning the diseases of the anus and rectum: "1. What are the best methods of diagnosis and treatment of these affections known to the regular profession? 2. What are the secret methods of the itinerants, and what is their value?"

The work does not pretend to be an exhaustive treatise upon the etiology, pathology, etc., of these troubles, but it is a well-condensed statement of the established opinions and methods of the best authorities upon a subject which has been greatly neglected by the profession, and which has, therefore, in the language of the authors "given charlatans an opportunity to slip in and occupy it in pestiferous numbers." The exposure of the secret methods of the traveling "pile doctor" is an amusing bit of history.

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NASAL POLYPUS, WITH NEURALGIA, HAY-FEVER AND ASTHMA, IN RELATION TO ETHMOIDITIS. By EDWARD WOAKES, M.D., London, Senior Aural Surgeon and Lecturer on Diseases of the Ear at the London Hospital; Surgeon to the London Throat Hospital. With illustrations. 8vo. Pp. 140. Philadelphia: P. Blakiston, Son & Co. Chicago: W. T. Keener. 1887.

This monograph upon ethmoiditis and its consequences, is based upon the extensive personal observations of the author, and bears evidence of careful study of the different stages and various forms of this affection, together with its anatomical and physiological consequences. The author's views are well matured and his deductions are clear. His contributions to our knowledge of the pathological conditions leading to polypoid growths are of special interest.

LESSONS IN GYNÆCOLOGY. By WILLIAM GOODELL, A. M., M. D., Professor of Clinical Gynæcology in the University of Pennsylvania, etc. Third edition; thoroughly revised and greatly enlarged; with 112 illustrations. Philadelphia: D. G. Brinton.

The second edition of Dr. Goodell's valuable work has been for some time out of print, and the profession will be glad to know that the author has found time to revise and present to the student the latest views of the leading authorities in this specialty, but more particularly will the busy practitioner be glad to have the matured judgment of Dr. Goodell himself upon the vexed problems that are just now claiming the attention of the profession.

Of oöphorectomy, or "Battey's operation," he says: "In well-selected cases, this operation has been followed by wonderful results, but," he adds, "it has been greatly abused." He cites cases illustrating his views as to the indications for the operation, and discusses at some length the results of the removal of the ovaries upon the physical, psychical, and social conditions of the patient. Upon the whole, he concludes that the effect is about the same as that of the normal menopause.

The conclusion of the article is as follows:

"The operation of spaying is yet in its infancy, and time is needed to develop its resources. From being performed too frequently and without sound warrant, it is in danger of falling into disrepute. Yet, I can not but feel that in carefully selected cases it will prove the sole means of curing many mental and physical disorders of menstrual life, which have hitherto baffled our science, and are a standing opprobrium to our profession."

The final lesson is devoted to a consideration of the causes of uterine disorders.

DISEASES OF THE HEART AND CIRCULATION IN INFANCY AND ADOLESCENCE. By JOHN M. KEATING, M. D., Obstetrician to the Philadelphia Hospital, etc., etc., and WILLIAM A. Edwards, M. D., Instructor in Clinical Medicine and Physician to the Medical Dispensary in the University of Pennsylvania, etc., etc. Illustrated with photographs and wood engravings. Philadelphia: P. Blakiston, Son & Co. 1888. Chicago: W. T. Keener.

This work consists of articles published by the authors in the Archives of Pediatrics during the year 1887. In collecting and publishing them in book form they have rendered a valuable service to the profession. Works on diseases of the heart in general are often unsatisfactory in their treatment of the derangements that so often occur during the growing and developing period of life. The information and data here collected will prove especially useful to the general practitioner. The book is not large—212 pages—and yet contains the sum of what is known upon the subject of which it treats.

A SYNOPSIS OF THE PHYSIOLOGICAL ACTION OF MEDICINES. Prepared for the use of the Students of the Medical Department of the University of Pennsylvania, with the approval of the Professor of Materia Medica. By LOUIS STARR, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, and JAMES B. WALKER, M. D., Professor of Practice of Medicine in the Woman's Medical College, Philadelphia, assisted by W. M. POWELL, M. D., Professor to the Clinic for Diseases of Children in the Hospital of the University of Pennsylvania. Third edition, enlarged. Philadelphia: P. Blakiston, Son & Co. 1888.

The book contains outlines of the physiological action of thirty-four drugs, the most of them being in common use. The arrangement of the work is systematic. Its scope is limited, and the matter is given in a very condensed form.

The fact that the book has reached a third edition indicates that there are many who are appreciative of such favors.

CHEMICAL ANALYSIS OF HEALTHY AND DISEASED URINE, QUALITATIVE AND QUANTITATIVE. By T. C. VAN NÜYS, Professor of Chemistry, Indiana University. With thirty-nine wood-engravings. 8vo. Pp. 187. Philadelphia: P. Blakiston, Son & Co. Chicago: W. T. Keener.

This excellent book is quite a complete manual of chemical urinalysis. It is well adapted to the laboratory—better than to the needs of the busy physician—since it is confined almost entirely to the more precise methods, especially in the part devoted to quantitative estimations, omitting all mention of other simpler, more convenient, and approximately accurate tests in extensive use.

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BOOKS RECEIVED.

Mortality and Vital Statistics, Part II, with Plates and Diagrams. Volume XII, of the Tenth Census of the United States.

Ledger of Monthly Balances and Index of Accounts. A companion to the Medical World Visiting List.

On the Wasting Diseases of Infants and Children. By Eustace Smith, M. D.

The Refraction of the Eye. A Manual for Students. By Gustave Hartridge, F. R. C. S.

Nasal Polypus, with Neuralgia, Hay-Fever, and Asthma, it relation to Ethmoiditis. By Edward Woakes, M. D., London.

A Synopsis of the Physiological Action of Medicines. By Louis Starr, M. D.

Chemical Analysis of Healthy and Diseased Urine. By T. C. Van Nüys.

The Rules of Aseptic and Antiseptic Surgery, By Arpad G. Gerster, M. D.

Transactions of the College of Physicians of Philadelphia.

A Pratical Treatise on Diseases of the Skin. By John V. Shoemaker, A. M. M. D.

Diseases of the Skin. A Manual for Practitioners and Students. By W. Allan Jamieson, M. D., F. R. C. P., Ed.

A Practical Treatise on Medical and Surgical Electricity. By Beard & Rockwell. Revised edition.

Diseases of the Heart and Circulation. By John M. Keating, M.D., and William A. Edwards, M.D.

A Manual of Physiology. A Text Book for Students. By George F. Yeo, M. D., F. R. C. S.

Obstetric Synopsis. By John S. Stewart, M. D.

Irregularities of the Teeth and their Treatment. By Eugene S. Talbot, M. D., D.D. S.

The Treatment of Hæmorrhoids by Injection of Carbolic Acid and other Substances. By Silas T. Young, M. D.

Questions and Answers on the Essentials of Physiology. By H. A. Hare, B. Sc., M. D.

MISCELLANEOUS.

CHICAGO'S NEW GARBAGE CREMATORY.—It has been started and it does its work to the satisfaction of the Health Department. Only one of the furnaces was started up for work at 9 o'clock yesterday morning, and the other three were started about the same time for the purpose of drying and getting them in shape for work. The one that was started proved ample to dispose of the garbage on hand until some twenty carts pulled up all at once. Then there was a slight delay before all of them could be emptied.

It is situated on Grant avenue, in the western part of the city, in a stone-quarry, and the top is just on a level with the street. The garbage wagons drive on top of it and the loads are dumped into schutes that land them on what are at present temporary floorings. From there they are shoveled through doors into the furnace. They fall on a grating and over this the flames pass.

The furnaces are at the north and south ends of the building and the chimney is in the middle. The draft thus carries the flames over all the garbage dumped into the ovens and the heat consumes it. The ashes as they are formed drop through the grating into the ash-pans beneath. And so the garbage of the city will be destroyed in the future.

The one oven working did excellently well. Garbage of all kinds was dumped into it, and went into ashes in an incredibly short space of time. The other furnaces will be under way soon. The floors have not yet been constructed for them, and until that is done it will be impossible to put garbage into them. The cost of the furnace was $10,000.

THE ANNUAL MEETING AND BANQUET OF THE ALUMNI ASSOCIATION OF THE INTERNES OF COOK COUNTY HOSPITAL.—The annual meeting of this association occurred March 28, 1888, at the hospital. By invitation, Professor Christian Fenger delivered an address on struma. Dr. Winslow, of Jacksonville, Illinois, was elected president, and Dr. C. E. Caldwell, of Chicago, vice-president, for the ensuing year. Dr. Harris, of Chicago, was re-elected secretary and treasurer.

PROFESSORS ERB, of Heidelberg, and LIEBERMEISTER, of Tübingen, are both named for the chair of the medical clinic of Leipzig, made vacant by the death of Professor Wagner.

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COLLEGE OF PHYSICIANS AND SURGEONS.—The graduating exercises of the College of Physicians and Surgeons were held in the Grand Opera House.

The following is the list of graduates:

Wm. Orr. Anderson	David P. Hueston
Franklin M. Bailey	David T. Jones
Hermon R. Bulson	William F. Malone
H. Leslie Burrell	Fitch C. E. Mattison
John A. L. Bradfield	Ernst J. Miller
George C. Brengle	Robert R. Michael
S. W. Burson	L. Frank Myers
Isaac W. Brown	George M. Nesbit
A. W. Burrows	Oscar F. Pile
Milton F. Coe Ph. B.	Henry F. W. Petersen
Neil Cameron	Charles Stirling
Frank C. Cullen	Walter B. Stewart
William Wilson Coker	Otto W. Stair
Levi B. Casey	Schuyler Shidler
John Howard Davies	James T. Stanton
Frank E. Duckworth	Bruno von Schallern
William S. Fowler	J. Joseph Selbach
Clifford P. Fall	James G. Sinclair
David W. Feltenstein	William B. Towle
John F. Glover	John James Wood
Henry A. Holliday	Daniel Baldwin Wylie
B. Y. Harris	Howard Eugene White
Thomas J. Haines	Luther R. Williamson

MEDICINE IN SYRIA.—The Syrian Protestant College at Beirut, in its catalogue for 1886–87, reports 103 graduates in its medical and pharmaceutical departments since 1871.

TRAINING-SCHOOLS FOR ATTENDANTS IN ASYLUMS FOR THE INSANE.—In an address upon this subject, read before the Fourteenth National Conference of Charities and Correction, held in Omaha during the past year, Dr. Richard Dewey, superintendent of the asylum at Kankakee, advocated the giving of special facilities for the instruction of attendants in this important duty. Such a school was organized in the institution of which he is superintendent, and the first class has just graduated—thirty-two in number.

Professor H. A. Johnson, of this city, addressed the class, and impressed upon its members the importance of their calling, and dwelt upon the fact that nursing now has become a profession, and honorable as well as important and responsible, and that intelligent effort must take the place of mere sympathy manifested in unavailing and often harmful ways.

THE CHICAGO MEDICAL COLLEGE.—The commencement exercises of the Chicago Medical College were held in Central Music Hall. The following is the list of graduates:

Louis Becker	James F. Keeney, B.S.
Edward A. Bemis	Henry H. Mather, B.S.
Everett J. Brown	Charles H. Mayo
Henry B. Carriel, B.S.	Otto G. Miller
Henry A. Fink	Charles W. More
William R. Fringer	James J. Morgan, Ph. B.
Henry D. Gardner	Edwin A. Morse
Frank F. Gray, Ph.B.	Edward C. Morton
Louis L. Gregory, A.M.	William H. Parker
Winfield S. Hall, B.S.	Frank C. Sarrazin
Joseph L. Hancock	Willis D. Storer
Fred J. Hodges, B.S.	Thomas B. Swartz, A.M.
Bayard Holmes, B.S.	Edwin P. Taylor
Ole T. Hougen	Henry A. Vennema
Frederick R. Hunt	Charles B. Wagner
Charles G. Ives	William L. Warriner
Chas. W. Johnson, A.B.	Henry C. Whiting

Honorary—Robert U. Chapman

OXYGENATED WATER IN DIABETES.—A. LE BLOUD recommends, in *L'Union Médicale*, 53, 1887, in diabetes, the use of water saturated with oxygen. He thinks that the increased quantity of oxygen furnished to the system will burn up the sugar. Senator, however, has already shown that such a view is erroneous.

UNIQUE SURGICAL CASES.—At the recent meeting of German Scientists and Physicians in Wiesbaden, Dr. DICK mentioned the following cases in his surgical experience: 1. Evulsion of a tendon *in toto*, together with the 2d phalanx of the thumb. 2. A complicated fracture of the elbow, in which the biceps-tendon, with the vessels and nerves above the joint, were cut through by a sharp fragment of bone. 3. A longitudinal fracture of the femur running into the knee-joint. 4. A fracture of the styloid process. 5. A fracture of the 2d cervical vertebra, with recovery. 6. A hairy tumor of the cornea.

A TABLET erected by the Alumni Association of the Bellevue Hospital Medical College, in memory of the late Professor Austin Flint, M. D., LL. D., was unveiled at the Carnegie Laboratory, in New York, on Saturday evening, March 10.

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THE NEW SURGEON-GENERAL OF THE NAVY.—The official term of Surgeon-General Gunnell of the navy having expired, the President has appointed Medical-Director John Mills Browne as his successor. This is an appointment that will give universal satisfaction, since all recognize the eminent qualification of Medical-Director Browne for the honorable position of the the head of his corps.

RADICAL CURE OF HERNIA.—Of 97 patients with 121 hernias, SCHWALBE, of Magdeburg, has cured 66 per cent. by subcutaneous and subfascial injection of a mixture of alcohol and boiling water.

ANNOUNCEMENTS.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

Premliminary programme of the Congress to be held in Washington, D, C., on the evenings of September 18, 19 and 20, 1888.

President: John S. Billings, M.D., U. S. A.

Vice-Presidents, ex-offico: President of the American Surgical Asssociation, D. Hayes Agnew, M. D., Philadelphia, Pa. President of the American Association of Genito-Urinary Surgeons, Edward L. Keyes, M.D., New York City. President of the American Laryngological Association, Rufus P. Lincoln, M.D., New York City. President of the American Climatological Association, Alfred L. Loomis, M.D., New York City. President of the Association of American Physicians, William H. Draper, M.D., New York City. President of the American Otological Society, Jonathan S. Prout, M.D., Brooklyn, N. Y. President of the American Ophthalmological Society, William F. Norris, M.D., Philadelphia, Pa. President of the American Neurological Association, James J. Putnam, M.D., Boston, Mass. President of the American Dermatological Association, I. E. Atkinson, M. D., Baltimore, Md. President of the American Physiological Society, Henry P. Bowditch, M.D., Boston, Mass. President of the American Orthopedic Association, Newton M. Shaffer, M.D., New York City.

Chairman of the Executive Committee, William Pepper, M.D., Philadelphia, Pa. Treasurer, D. B. St. John Roosa, M.D., New York City. Secretary, William H. Carmalt, M.D., New Haven, Conn.

SUBJECTS FOR REPORT AND DISCUSSION.—Tuesday evening, September 18, "Intestinal Obstruction in its Medical and Surgical Relations." Papers will be read by Dr. Reginald H. Fitz, of Boston, Professor of Pathological Anatomy in Harvard University, and Dr. Nicholas Senn, of Milwaukee, Professor of Surgery in the College of Physicians and Surgeons, in Chicago, Ill., followed by a discussion.

Wednesday evening, September, 19, "Cerebral Localization in its Practical Relations." Papers will be read by Dr. Charles K. Mills, of Philadelphia, Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic and College for Graduates in Medicine, and Dr. Roswell Park, Professor of Surgery in the Buffalo Medical College, followed by a discussion.

Thursday evening, September 20, Address by the President, John S. Billings, M.D., U. S. Army, to be followed by a general reception in the United States Army Museum building.

GARI PRIZE ON BLENNORRHAGIA.—The Royal Academy of Medicine and Surgery of Barcelona has announced as the subject of the Gari Prize (of $300) for 1889, "The Pathogenesis of Blennorrhagia; clinical forms of the disease; cases of long duration and recurring cases; concomitant and consecutive affections; prophylactic and curative treatment." Demonstrations and reports of cases should accompany manuscript. These should be sent, written in Spanish, French, or Italian, to the Academy (*Banos Nuevos*, No. 9, Barcelona, Spain) before June 30, 1889.

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Benjamin Rush

BENJAMIN RUSH, M. D.,

A GREAT PHYSICIAN, A NOBLE PATRIOT, A SIGNER OF THE DECLARATION OF INDEPENDENCE.

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DR. BENJAMIN RUSH

physician, patriot, Christian and a cultured writer was Benjamin Rush

ler of two brothers. He was born ...sop or Byberry near Philadel- ... having lost his father in early ... to a devoted mother a gen- ... ...

... fourteen he entered Prince- ... and September 1760, was ... with the degree of Bachelor of ...

... graduation he took up the ... medicine under the preceptorship ... Redman of Philadelphia ... a pupilage of six years, in ... to Edinburgh, where he attended ... at the university, obtaining ... two years, his degree as Doctor of ... The following winter was spent ... don, and the succeeding summer ... in the autumn of 1769 he ... to Philadelphia, and began the ... of his profession.

... pursued his practice with success ... the year 1793 a terrible epidemic of ... fever visited the city. The epi- ... about during the first week of ... raged with singular violence ... end of October, and during that ... the city was nearly depopulated ... of its frightened inhabitants. In ... alone, the disease counted about ...

... never wavered in his duty. At ... when 6,000 people were ... with the disease, only he and two other physicians ... the ... [illegible] ... [illegible] ... [illegible]

Benjamin Rush

[illegible] RUSH, M. D.

A GREAT PHYSICIAN AND PHILANTHROPIST, AND A SIGNER OF THE DECLARATION OF INDEPENDENCE.

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DR. BENJAMIN RUSH.

A wise physician, patriot, Christian gentleman, and a cultured writer—such was Dr. Benjamin Rush.

The elder of two brothers, he was born in the township of Byberry, near Philadelphia, and having lost his father in early life, he owed to a devoted mother a generous education.

At the age of fourteen he entered Princeton College, and September, 1760, was graduated with the degree of Bachelor of Arts.

After his graduation he took up the study of medicine under the preceptorship of Dr. Redman, of Philadelphia.

After a pupilage of six years, he went, in 1766, to Edinburgh, where he attended lectures at the university, obtaining, at the end of two years, his degree as Doctor of Medicine. The following winter was spent in London, and the succeeding summer in Paris, and in the autumn of 1769 he returned to Philadelphia, and began the practice of his profession.

He pursued his practice with success, and in the year 1793 a terrible epidemic of yellow fever visited the city. The epidemic broke out during the first week of August, and raged with singular virulence until the end of October, and during that period the city was nearly depopulated. The inhabitants fled panic stricken. In the city alone, the disease counted about 4,000 victims.

Dr. Rush never wavered in his duty. At one time, when 6,000 people were down with the disease, only he and two other physicians stood to their posts, the rest having, it is stated, either died or removed to places of safety.

For weeks, day and night, his house was filled and surrounded by multitudes imploring his assistance. In fact, he nearly paid for his labors with his own life, naturally succumbing at last to a strain that no human system could endure.

His treatment was "heroic." Indeed, Dr. Rush was no believer in what has been aptly described as "long range practice." But though his practice was successful, it aroused a controversy that degenerated into malicious and scurrilous personal abuse. But the world recognized his greatness. Honors and presents flowed in upon him from all countries, and among those gifts was a valuable one from the Emperor of Russia.

The history of Dr. Rush as a teacher of medicine is familiar; his appointments, as chronicled in the journal of the University of Pennsylvania, were as follows: 1769, Professor of Chemistry in the College of Philadelphia; 1789, Theory and Practice of Medicine in the same institution, succeeding Dr. Morgan; 1791, Institutes of Medicine and Clinical Science in the University of Pennsylvania, into which the College of Philadelphia had been merged; 1796, Practice of Physics; this in addition to the last-mentioned chairs.

He was, besides, during many years, one of the physicians of the Pennsylvania Hospital.

He was a thoughtful and polished writer on general subjects, and some of his ideas

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on non-medical matters, especially that of general education, have since borne fruit.

In July, 1776, he was chosen a representative to the General Congress, and signed his name to the Declaration of Indepence.

In 1777 he was appointed for the Middle Department, Physician-General of Miltary Hospitals in the Continental Army, and in 1780 he became a member of the delegation from Pennsylvania to the convention that adopted the Federal Constitution.

On the close of the war, he was appointed to the directorship of the Mint, which position he filled during fourteen years.

In private life, he was an active promoter of various social enterprises, being Vice-President of the Philadelphia Bible Society ; Vice-President of the American Philosophical Society, etc. He was also for a time President of the Philadelphia Medical Society. In 1786 he instituted the Philadelphia Dispensary, and was active in founding Dickinson College, at Carlisle, Pennsylvania, as well as an earnest advocate of a free-school system.

These facts serve to illustrate the breadth and liberality of his views, which were far in advance of his times.

He died of typhus fever, in the height of his intellectual vigor and fame, on the 19th of April, 1813, in his 68th year, honored, respected, and beloved. His loss was more deeply lamented throughout the country than that of any other man of his day excepting Washington and Franklin. He left many contributions to the literature of his profession, and though his medical writings have been superseded, his influence upon the methods of the profession remains unimpaired.

In his native city, the magnificent Rush Library, on South Broad street, stands today a monument to his fame and his generosity; and his name is still respected after a lapse of nearly four score years, as that of a hero, gentlemen, scholar, and Christian of the noblest type.

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The Medical Journal and Examiner.

VOLUME LVI. MAY, 1888. NUMBER 5.

SURGICAL TUBERCULOSIS.*

BY T. B. SWARTZ, A. M., M. D.

Since Koch's announcement of the discovery of the bacillus tuberculosis, in March, 1882, the medical press has devoted more time to the discussion of this subject in all its details than has been given to any other theory in medicine promulgated in recent years; and, certainly, no discovery in the province of medical science in modern times has surpassed it in clinical and pathological value, or provoked such general and acrimonious discussion.

But while the theory of the bacillus tuberculosis has not been accepted by some very able men in the profession, the fact of the existence of this micro-organism and of its importance as an etiological factor in one of the most common and most fatal diseases, has been demonstrated, and is now generally recognized.

It is, however, not my purpose to discuss the efforts made to controvert Koch's theory, but rather to examine briefly the present status of the question, and then to pass on to a brief consideration of the tubercular diseases in which the surgeon is especially interested.

Until comparatively recent years tuberculosis was considered exclusively a local disease of the lungs; the term *tuberculosis* was as definite in its designation of a disease as the term Pott's disease. But since we now know that nearly every organ or tissue of the body may become the field of action of this virus, the term tuberculosis no longer locates the disease, but indicates only an idea of the histological topography of the lesion, *i. e.*, a nodule with certain definite elements and having a given life-history.

Although the discovery of Koch was at first turned to advantage, chiefly in the diagnosis of lung diseases, thus restricting its value principally to the field of medicine, yet surgery has not failed to benefit by it in a most important degree. The recognition of the surgical value of this discovery has been a matter of slow growth, and the profession to-day, outside of Germany, is by no means a unit on this question.

While Koenig, in Germany, asserts that the surgeon there considers almost every chronic inflammation a tubercular disease, yet one widely read work on diseases of the joints, by an American author, published since 1883, does not mention the subject of tuberculosis, but the author contents himself with the use of the vague terms "strumous and scrofulous" joints. The same may be said of a similar work published in London as late as 1886, to which I may have occasion to refer again.

I shall endeavor to give here only a brief

*An Inaugural Thesis.

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résumé of the arguments which, in my opinion, render the mycotic origin of the tubercle an established fact in medicine, and in doing this, time and space will permit only a statement of propositions which have been satisfactorily demonstrated:

1. *Is the tubercle infectious?*

Koch has pointed out that Klencke was the first investigator who successfully inoculated animals with human tuberculosis in 1843. Villemin, in 1866, next took up the subject, and not only affirmed the proposition of Klencke, but proved also the converse to be true.

He first attracted general attention to the subject by a series of successful inoculations with tubercular virus, producing in *every case genuine tuberculosis*, and he fortified his conclusions by accompanying these inoculations with another series of carefully conducted control-experiments with non-tubercular material *without producing tuberculosis in a single instance.*

Koch, Cohnheim, and others, supplemented these investigations by numerous experiments, with perfect safeguards against error, and *invariably* produced the disease with *tubercular virus* and *never with any other*. Immediately upon the publication of the results of these experiments, opposition began to develop. Among the most prominent critics may be named Burdon Sanderson, Wilson Fox, and others of note.

They attacked the question negatively, and by numerous experiments sought to vitiate the conclusions of these investigators by showing that tuberculosis could be produced by other than tubercular material.

They succeeded for a time in raising a doubt as to the accuracy of the foregoing conclusions, but when their methods of experimenting became known it was evident that they had failed to surround their work with the necessary safeguards against error; that their work was practically unreliable and without value, and Koch's conclusions stand to-day in no immediate danger of cantradiction.

We may therefore accept it as established:

I. That tuberculosis is infectious and can be propagated through a *series* of animals by inoculations, and that no matter how remote the inoculation, the disease retains its identity and infectious character; and,

II. That the disease *cannot* be produced by inoculation, inhalation, or by any other method with any other material, organic or inorganic.

2. *What is the infectious element?*

When Koch had been convinced of the truth of these propositions he set to work to discover, if possible, the particular element in the tubercle which is the cause of infection. The native histological elements of the tubercle were then, as now, well understood, and since all of them occur in ordinary granulation-tissue, identical in every particular except that of arrangement, and yet when taken from such tissue are perfectly innocuous, he was forced to the conclusion that the infectious property of the tubercle lay in some element not yet discovered—perhaps some specific poison of a parasitic nature foreign to the body.

A full description of Koch's work in this line of thought is not essential here, and I will state only the points which he sought to establish.

They are as follows:

I. To determine whether in tubercular tissues elements occur foreign to the tissues and not produced by them.

II. Having found such elements, to prove, if possible, that they are living organisms having differentiating characteristics and capable of indefinite multiplication.

III. To show that tissues containing such organisms, when used for inoculation would produce the disease and that no other tissues would do so.

IV. Whether, by cultivating this organism in suitable soil until a *perfectly pure* culture had been obtained, he could pro-

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duce the disease with such culture by inoculation.

V. To show by control-experiments that inoculation by any other substance not containing such an organism *never does* produce the disease.

All this he successfully accomplished with marvelous accuracy, and by experiments extending over hundreds of cases and with uniform results.

This organism, having distinct characteristics and capable of ready differentiation from all other forms of schizomycetes, Koch calls the "Bacillus tuberculosis," and in it resides the efficient etiological factor of tuberculosis. Without entering into further detail we will assume as demonstrated the two propositions pertaining to the etiology of the tubercle and its infectious character. If we now keep in view the well-known histological elements of the tubercle, together with the propositions just stated, we will be able to define a tubercle as a cellular, non-vascular nodule containing the bacillus tuberculosis, and varying but little in its histological elements and life-history.

As a basis of some remarks on the surgical treatment of tuberculosis, we may consider briefly a few facts in the pathology of the tubercle. Since the bacillus tuberculosis is the irritant or cause of this disease, and is constantly escaping from tubercular tissues and floating freely in the air, why is it that we do not all become infected? Why do the few alone suffer? Obviously the most rational explanation lies in the varying susceptibility of different individuals, and of different tissues in the same individual. Therefore, in addition to the presence of the specific irritant there must be also a specific susceptibility—that is, a suitable soil and favorable conditions of temperature, rest, and moisture.

The bacillus tuberculosis gains access to the body by means of the air or food, and having lodged, the soil being suitable, the germ proceeds to multiply in loco. The presence of the germ in the tissues or the products which it evolves is a mild chronic irritant and causes corresponding inflammation. The products of inflammation gather around the focus of irritation and take the special structural arrangement which is readily recognized under the microscope, and which is so well understood that it needs no description here. This structure has, however, a special tendency to necrosis, the one usually affecting albumenoid structures, namely fatty degeneration terminating in caseation. This degeneration is as characteristic of the tubercle as any element which it contains; it is an invariable factor in its history.

The bacilli are carried, probably by the leucocytes, into contiguous parts, and a series of secondary foci spring up around the primary focus, passing through similar stages toward necrosis, and from proximity blend with the primary focus; thus the disease spreads by means of progressive local infection. There may thus result the destruction of a part or the whole of an organ, and the disease still be a local one. But at any moment the bacilli may find their way into the lymph-channels and through them into the blood, or they may enter more directly by penetrating the vessel walls; and when this occurs the disease is no longer local, but every part of the body becomes liable to its destructive influences and we have a general disease, acute miliary tuberculosis.

This brief pathological history should be of interest to the surgeon for the following reasons:

1. The disease is infectious.

2. It spreads from a single focus to adjoining parts, and entering the blood becomes a general disease terminating in death. It is malignant in the sense that it is metastatic. It may not be as fatal as cancer when not interfered with, but the record of cases where the primary focus when fully developed has become encapsuled, calcified, or otherwise mysteriously disappeared, is so small that this element may be practically eliminated from con-

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sideration in making our prognosis of the case, or in determining on a mode of procedure in its treatment. The case may be stated dogmatically as follows: Given a primary tubercular focus within the field of surgical operations, it is the surgeon's imperative duty to eradicate it before general infection occurs and a fatal result is inevitable. Perhaps all surgeons of the present day are willing to subscribe to this principle, but undoubtedly there exists a great diversity of opinion as to the etiology and pathology of many surgical diseases that are unmistakably tubercular.

While tubercular lesions of various tissues of the body besides the lung were early recognized by Delpech, Nichet, Nelaton, and others, their knowledge was based wholly upon the histological elements of the tubercle. Since the discovery of Koch, however, Volkmann, Friedländer, Koenig, and others, have used the microscope so energetically and so efficiently on a great variety of lesions, and have found the bacillus tuberculosis invariably in certain classes of diseases, that they are now quite generally considered as being always of tubercular origin.

I have already adverted to the prevalence of this opinion in Germany, but in a work entitled "Diseases of the Joints," by Howard Marsh, of London, published in 1886, no reference is made to tubercular disease of the joints, although the author devotes considerable space to the consideration of "Scrofulous Diseases of the Joints," and of "Strumous Joints." He gives, however, as "complications" of these affections, unless early and successfully treated, phthisis, tubercular meningitis, etc. Thus it would seem that while the profession is practically a unit as to the treatment of tubercular lesions, when recognized, there appears to be want of recognized pathognomonic signs of such lesions when they occur.

As long as the terms "strumous joint" and "scrofulous disease" are retained, there will probably continue to be confusion and error in diagnosis, for they represent only a condition, not a disease.

If what has been said be true, then it is of vital importance in these cases that early and correct diagnosis be made; and in proportion as the surgeon depends upon the microscope in diagnosis will scrofula disappear from the list of pathological lesions, and application of the term become restricted to designation of a condition of the system—a constitutional diathesis which predisposes to tubercular disease. The correctness of this definition of scrofula has been demonstrated by conclusive investigations. The term should be used only to designate a depraved constitution of low vitality, one especially susceptible to turbercular infection.

M. Rendu states the case as follows: "Scrofula and turberculosis bear the same relation to each other as soil to seed." If chronic inflammation occur in such an individual it seems safe to conclude that it is tuberculosis.

Regarding tuberculoses occurring within the province of surgery, time will not permit anything like a complete review of the history, pathology, diagnosis, and treatment of these diseases, and necessarily consideration of that phase of the subject must be general rather than special, and under the following divisions:

I. Diagnosis.
II. Treatment.
III. Enumeration of surgical tuberculoses.

I. Diagnosis.
a.. Presumptive.
b. Positive.

By presumptive diagnosis is meant diagnosis based upon the history of the case, together with its physical characteristics, and the general condition of the patient. By positive diagnosis is meant that based upon the microscope, upon inoculations, or both. What degree of probability or positiveness may attach to presumptive diagnosis, as defined above?

Although positive diagnosis of a tuber-

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cular lesion must necessarily be based upon microscopic examination or inoculation-experiments, with due safeguards against error, yet the constancy with which the disease appears in certain organs or tissues, under certain well-defined conditions, and manifesting itself with more or less constant characteristics, gives to such a presumptive diagnosis a degree of probability which makes it differ from a positive diagnosis by less than any assignable quantity. Thus tubercular hip-disease, Pott's disease, necrosis of bone with rarefaction, occurring in the so-called scrofulous individuals, are always regarded as being tubercular in orign. But the same can not be said of all tubercular lesions, and the microscope is frequently the only reliable means of diagnosis. The importance of early diagnosis in these cases leaves no room for doubt as to the duty of the surgeon in regard to the use of the microscope in all forms of chronic suppurative inflammation.

Negative results in its use in unskilled hands do not imply that positive results are not possible in the hands of those more expert in the use of the instrument. The microscope of a magnifying power of, at least, from 300 to 500 diameters is recommended; Koch advises 500 to 700 diameters, with an Abby condenser for thick sections. The sections must have a special staining, and the process known as Ehrlich's modification of Koch's method is, perhaps, the most accurate and convenient. This method of making a diagnosis may seem long and troublesome, but it does not consume much time where all conveniences are at hand.

Nowhere is the bacillus tuberculosis found in such large numbers as in the lungs. The sputum of a tubercular patient usually contains the bacilli in sufficient numbers to enable the microscopist to detect them with comparative ease. It is not so, however, in tubercular lesions of other parts of the body. Frequently but a single bacillus can be found in such a section, and it is often necessary to examine a large number of slides before the germ can be detected. Koch, at one time, examined forty sections from a lupus before he found the germ.

II. Treatment.

Of the treatment, in general, but little need be said. From the nature of the disease it must be radical and early in order to be efficient. The indications are—

1. Medical, to attempt to build up the system and fortify the tissues against further invasion.

2. Surgical, to eradicate the focus as early as possible.

These indications become self-evident from the infectious and metastatic character of the disease, *i. e.*, it is fatal without early and adequate treatment.

It is not to be inferred that every case of tuberculosis can be cured by operative measures. Sometimes the disease, like carcinoma, recurs. This is readily explained upon one of two hypotheses—either the focus removed was not the primary focus, but a secondary or metastatic lesion, and the primary focus still remains as a source from which secondary lesions continue to develop; or, if the primary focus was operated upon, it was not completely eradicated and it continues to spread. Indeed, Koenig has estimated that of all tubercular diseases of bones and joints, 79 per centum are secondary lesions. Nevertheless, when the disease manifests itself in such a way that its diagnosis becomes positive, surgical interference is the only rational treatment, and it alone can hold out hope of permanent recovery of the patient.

III. Enumeration of surgical tuberculoses.

Only some of the more important of these lesions will be considered here.

a. Tuberculosis of bones.

That this tissue is especially liable to tubercular infection, has been demonstrated. So constantly is the bacillus tuberculosis found in *ostitis rarefaciens* that many

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surgeons consider caries of bone as being always tubercular in character. This is perhaps a radical position to assume, but I believe that it results in less harm to patients than the extremely conservative position of denying the frequent occurrence of tuberculosis, and putting patients on an expectant plan of treatment.

Caries of bone is well defined by Boyd as an erosion of bone by tubercular inflammation, syphilis being almost the only other cause. Traumatism may be a secondary cause; its mode of operation will be referred to later. Caries attacks spongy bones far more often than compact ones, the vertebræ being by far the most commonly affected, as in the condition known as Pott's disease.

Chronic suppuration is nearly always connected with this form of bone-disease, and is, to some extent, characteristic. Often it is profuse, seeking the surface in the line of least resistance. The chief danger lies in exhaustion, septicæmia, or acute tuberculosis. These lesions occur most frequently in children, and notably in those possessing the so-called scrofulous constitution.

The treatment has already been indicated. The general condition must first receive attention; then, if possible, the tubercular focus should be thoroughly eradicated by surgical means. In the case of Pott's disease, radical operations, of course, are impossible, but much can be done by change of climate and constitutional treatment. Dr. Edmund Andrews has had excellent results by dissolving out the carious bone with dilute hydrochloric acid of such strength as the patient can bear. His mode of treatment, together with the results of numerous and careful experiments with various bone-solvents, are fully explained in a paper read before the American Medical Association, June, 1887.

b. *Tuberculosis of Joints.*

This is a frequent disease, especially among children.

Recently pathologists have come to view joint-disease as primarily tubercular, and that traumatism, while it may be an exciting or secondary cause, is seldom, if ever, the primary etiological factor. The manner in which the joint becomes infected is of interest.

Tuberculosis of a joint is usually a secondary lesion, the primary focus being, perhaps, a neighboring caseous gland, or the source of infection may be located in the cancellous tissue of the proximal end of one of the bones forming the joint. A knee-joint may be primarily attacked by tuberculosis without any other focus; but it has been shown that a primary source of tubercular arthritis of the knee has been a focus situated in the cancellous tissue of the lower epiphysis of the femur, the caseous products of this focus having found their way into the joint with resulting infection. When a joint, situated near such primary foci, suffers from traumatism, there is set up a current of lymph and blood in the direction of the injured joint; there is determination of fluids to this part; hyperæmia, and the caseous *débris* of such a tubercular lymph-gland, together with the contained bacilli, is swept along with the current into the joint and the result is tuberculosis following traumatism. If the injury be a compound fracture, infection may come from the atmosphere. The hip-joint is especially liable to disease of tubercular character and "disease of the hip-joint" usually means tuberculosis, although this joint like all others, is liable to inflammation having other origin. Outside of tuberculosis of the lungs, tuberculosis of the hip-joint is most unfavorable as regards prognosis; this is especially true if the disease go on to suppuration.

Of 401 cases of hip-joint disease reported from the Hospital for Hip-joint Diseases, London, in 69 per centum there was suppuration.

The Alexandrian Hospital, London, reports 260 cases of suppurative hip-joint diseases, of which 31.6 per centum proved

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fatal, the cause of death being chiefly tuberculosis acute or local.

The rational treatment seems to be excision, and yet the mortality resulting from the operation has been very large, but improved methods of operating, greater skill, and better antisepsis, in the future may materially reduce this high death-rate.

It may be stated in conclusion that all bones and all joints of the body are liable to infection, for, under diseased conditions, the bacillus tuberculosis has been found in most of them.

c. Other tuberculoses.

Some of the tissues and organs of the body which have been the seat of tuberculosis, and in which the bacillus tuberculosis has been demonstrated, are given as follows:

Abcess, pre-sternal and costal, by Debove; Abcess, cold, by Schuckhart and Krause; Bladder, by Wesener; Epiglottis, by Voltolini; Epididymis, by Brouilly; Fallopian tubes, by Koch; Fungoid ostitis of rib, by Brouilly; Genito-urinary tract, male and female, by Koster; Glans penis, by Koch; Intestines, by Koch; Kidney, by Gondolphe; Lymphadenomata, by Schüppel; Lymphatics, cervical, by Guarneri; Lupus, by Friedländer and Koch; Larynx, by Koster; Mucous membrane ulcers, by Volkmann; Mouth, by Volkmann; Mammary cysts, by Friedländer; Os uteri, by Friedländer; Osteo-myelitis, by Kanzler; Ovary, by Koch; Ozena scrof., by Volkmann; Pharynx, by Voltolini; Rectal fistula, by Voltolini; Skin, by Friedländer; Supra-renal capsules, by Koch; Tongue, by Koster; Tonsils, by Guttmann; Tendon-sheaths, by Koenig; Testicles, by Schuckhart and Krause; Uterus, by Koze and Simon; Urethra, by Koch; Velum palati, by Guttmann; Vagina and vulva, by Wesener.

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St. Luke's Hospital, Chicago.

HÆMATURIA SIMPLEX IN A NEWBORN CHILD.

BY HAROLD N. MOYER, M. D.,
Lecturer on Physiology, Rush Medical College.

In the early part of January of the current year a child five days old came under my observation, suffering from hæmaturia. The child was small and extremely delicate, one of twins born after a tedious but not specially difficult labor. The first urine passed after birth contained a small quantity of blood; the next was much darker and stained the napkins like nearly pure blood. This continued until the fifth day, when I saw the child. The portions of the napkins stained with urine were of a uniform reddish-brown color, somewhat stiffened, but there was no evidence of clotting. Portions that were stained were cut

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out and macerated in water. The resulting fluid contained a large number of red blood corpuscles and some phosphates, but no crystals of uric acid or oxalate of lime. The fluid was markedly alkaline, but this might have been due to soap contained in the fabric. At no time was there any evidence of pain when the urine was passed. Temperature was normal, appetite good, bowels regular. No tenderness over hypogastric or lumbar region. On the evening of the fifth day a mild icterus developed. The skin was faintly yellow, the conjunctivæ were not colored, nor was there any evidence of inflammation about the umbilicus. The icteric attack faded on the second day, and was not associated with any disturbance of the general health. When the child was six days old the urine became clearer, and on the seventh day was free from blood. Since that time the child has continued perfectly well; it has grown stronger, and now presents the appearance of a healthy, well-nourished babe of three months.

So far as the literature of this subject is accessible to me, I have been able to find but little reference to the condition except the relation in which the symptom stands to cancer of the kidneys. This matter was carefully considered by A. Leibert (Jahrb. f. Khkde., 1884), who publishes a case of his own, two from Dr. Jacobi's practice, and gives a résumé of forty-eight published cases of cancer of the kidney occurring in children under eleven years of age. He found that hæmaturia was relatively more frequent in cancer of the kidneys in children than in grown people. In two-thirds of the cases it was the first symptom of the disease.

An examination of a large number of works on diseases of children, only elicits the uniform statement that hæmaturia is most marked in purpura scarlatina, croup, pneumonia, chronic exanthemata and cancer, tuberculosis, and cheesy degeneration of the kidneys. The condition which I have ventured to term "hæmaturia simplex" is nowhere referred to in any English work on diseases of children (with one exception), nor does it receive consideration in the ponderous German "handbook" (Handbuch der Kinderheilkunde). I do not, however, regard the symptom as a very rare one, though the literature of the subject is so meagre. A case is reported in the *Lancet* for 1880, the reference to which is not now accessible to me, and another is found in the work of Dr. Goodhart (A Guide to the Diseases of Children, by James Frederick Goodhart, edited by Louis Starr, M. D.). He says, after referring to hæmaturia in the graver conditions: "But besides all these, and more puzzling than they, children are brought to the out-patient room with a history of frequent passage of blood from the urine. Perhaps they are admitted, and the blood, present once or twice within the first few hours, disappears altogether, and does not reappear." The author then describes the case of a girl aged seven, who had suffered from hæmaturia for four months, not associated with pain or any disturbance of the general health, nor could the cause of the symptom be determined. When the patient was admitted the author remarked that "some of the features were those of vesical growth, but that it was a frequent hospital experience that children, with prolonged hæmaturia outside, speedily got well inside the hospital." Such proved to be the case with this little girl.

While this is the first case of hæmaturia in a young child that has ever come under my observation, yet, as I said before, I do not believe that the condition is very rare. The indications are to examine for any of the ordinary causes of hæmaturia, stone, renal or vesical, nephritis, or vesical growths. Unfortunately the malignant forms, cancer, tuberculosis, etc., can only be differentiated by time, but these later conditions are not to be inferred because the former are excluded.

I think, from what has already been said, that we are justified in adding the term "hæmaturia simplex" to the literature of

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pædiatrics, and that with advantage, as the practitioner when confronted with the array of deadly diseases with which the symptom is associated in most of our standard text-books, will make a fatal prognosis which will not be verified by the subsequent history.

434 WEST ADAMS STREET.

ORIGINAL LECTURES.

A CLINICAL LECTURE.

BY DANIEL R. BROWER, M. D.,
Professor of the Diseases of the Nervous System, Didactic and Clinical, in the Woman's Medical College.

[Reported by William Whitford.]

POLIOMYELITIS ANTERIOR ACUTA.

This patient is 52 years of age. She says that she had two convulsions in quick succession last June. She tells us she had general malaise and a high fever before the convulsions came on, and after she recovered from the convulsions her left leg was partially paralyzed, and two weeks afterward her other leg became paralyzed. Her health previous to this trouble was good. She is married, but has never borne children. On examination of the limbs we find, with the æsthesiometer, that the tactile sense is normal. We find by the use of these two tubes, one containing hot and the other cold water, that she has normal condition of temperature-sense, and she seems to have also keen perception of pain.

Whatever the trouble is, it does not involve the sensory areas. Examination of the condition of the limbs as to temperature shows that they are colder to the sense of touch than they ought to be in a room of this temperature. Comparison of the temperature of the hands with that of the lower extremities shows that the temperature is considerably below normal.

There is paralysis of certain muscles in this case. She can not make certain movements. Examination of the limbs as to the condition of muscular tissue shows waste; the calf-muscles have almost disappeared. She had large limbs at one time, but now they are small in comparison to what they ought to be in a person of her size.

There is no disturbance of sensation, but impairment of motion (paralysis), depressed temperature, and atrophy of the limbs.

Regarding the history of this patient, I would say that I saw her at the time she entered the woman's hospital. Then there was absolutely no power in the lower extremities. Since that time, by the use of electricity every day, using the galvanic current to a strength sufficient to produce muscular contractions, she has improved. She has also had massage daily, and was given internal specific treatment. There were certain things in connection with this case that pointed to syphilis as the cause of this disturbance in the spinal cord, and under this continued electrical treatment, together with massage and the internal administration of mercury, she has made a great deal of improvement.

The affection is an inflammation of the anterior horns of the cord—poliomyelitis anterior acuta—and the interesting feature about it is this: It has occurred in an adult. It is a disease of the spinal cord exceedingly uncommon in adults. It comes on suddenly, with first a severe chill and fever, followed by convulsions, then paralysis. There is nothing in the character of the chill, the fever, or the convulsions to lead one to suspect that the spinal cord is the seat of the disease. One can only locate it when the resultant phenomena—paralyses—have been found.

This form of inflammation of the spinal cord does not affect the bladder or the rectum. This patient has no discomfort about the chest or head. The disease is limited to the anterior horns of the cord in the lumbar enlargement. The territory involved in this pathological process is small. You see a striking difference in the symptomatology from the cases we showed you a week ago —two cases of locomotor ataxia, paralysis

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agitans, and one of paraplegia. The striking symptoms of the disease under consideration are paralysis, wasting of the lower extremities, a low temperature of paralyzed limbs, and the absence of sensory disturbance. You see also vaso-motor disturbance manifested in both of these limbs; they are swollen, showing impairment in the circulation of the limbs. That comes from the vaso-motor disturbance that accompanies the disease and which accounts also for the depressed temperature of the limbs.

PSEUDO-HYPERTROPHIC PARALYSIS.

We have now to direct your attention to a little patient. She is five years of age, a bright, sprightly little girl, who has never walked. Notice the peculiar position of her body when she tries to stand or move forward. She tries to walk on her toes; she throws one foot in front of the other, and makes her progression on the toes. There is but little movement, and it is not made by bringing the foot down flat but by walking on the toes, throwing her head and chest away beyond the centre of gravity. She has some power of movement in the sitting posture, but it is much impaired. Touch-sense, temperature-sense, and pain-sense are normal.

There is one point to which I desire to call your attention in particular, and that is the condition of the thigh-muscles as compared with the calf-muscles. There is an enormous development of the calf-muscles. The tissues in the calf of the leg are hard and dense to the sense of touch. Notice the great overgrowth of tissue in the thigh. We have an overgrowth of the thigh-muscles, and just how much they are overgrown in comparison to what they ought to be as compared with the muscular structure generally, we cannot definitely determine. What calf-muscles she has are almost as hard as gristle. So far as the thigh-muscles are concerned they are hypertrophied, but it is not a hypertrophy with increased muscular power; there is loss of power; the tissues in her thighs and calves cannot possibly be proper muscular tissue. It does not perform the functions of muscular tissue, and it has a degree of density to the touch that does not belong to normal muscular tissue. The hypertrophy can not be due to overgrowth of muscular structure. Some change has taken place in the proper structure of the muscles; it is, in short, pseudo-hypertrophy, making this a case of pseudo-hypertrophic paralysis. The disease in this, as in the other case, is located in the anterior horns of the cord. It differs from the other case. The patient with poliomyelitis anterior acuta, who was just before you, up to the time of her fever and convulsions, had no impairment of power of the lower limbs. The acute process in her case came on suddenly. The trouble of this child has been going on since its early history. When the disease commenced we do not know. The early history is defective. We have here a chronic process. The trophic centres that are concerned in producing atrophy or impairment of function not only produce atrophy of muscular tissue, but a growth of adipose tissue sometimes instead of muscular tissue proper. Why this should be has never been satisfactorily explained.

This child was before the class last winter, and has made some improvement since that time. She is receiving now, and has been during the year, the constant galvanic current as strong as could be borne—a current of sufficient strength to produce muscular contractions—together with cod-liver oil, small doses of strychnia, and massage, and with this line of treatment judiciously carried out she has improved. If the muscles will respond to a current that the patient can tolerate, there is hope of restoration, and the treatment should be persisted in for months, and even years, if necessary. Just as long as the muscles will respond to a galvanic current there is hope of improving their nutrition and of restoring their power. Occasionally such cases recover.

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SCIATICA.

This patient is 45 years of age. She complains of pain in the left side. This pain she says begins in the small of the back and shoots down the left leg. When I press over the trochanter she complains of pain; when I press into the popliteal space she complains of pain; also when pressure is made over the head of the fibula. She complains also of pain on the inner side of the foot, over the internal malleolus. We will see if there is any difference in the size of the limbs. We will select two corresponding points on the right and the left legs. The left leg measures two inches less in circumference than the right. The pain is always worse at night. Notice the difference in the quality of this pain, and the location of it, as compared with the cases of locomotor ataxia that appeared before you a week ago. This pain is distributed more or less over the whole leg, following the course of the nerve-trunks; it is not localized. It has been followed by atrophy of the limb.

This is a case of sciatica. We will try to find out what the cause of it is. She is the mother of thirteen children, eight of whom are living, and has had five miscarriages. We elicit no history of rheumatism, and no history of syphilis. Her menstrual periods have been less profuse, and at longer intervals than formerly; she is approaching the menopause. Her urine was found on examination to be abnormally acid and loaded with uric acid and urates. The condition of the menses and urine furnishes a clue to the cause and suggests the line of treatment. The menstrual period is the period of purification; there is a large amount of waste material eliminated at this time, and when the function ceases there is more or less disturbance produced in the nervous system by the circulation in the blood of this excrementitious matter, and neuralgia is a common result of this retention. We will therefore prescribe for this patient mild alteratives, laxatives, and tonics, to promote the removal and arrest the formation of these morbific products.

R:

Sodii salicylatis, drachms.....5
Sodii iodidi " 2½
Syrupi rhei et potassii comp., oz...1
Aquæ Gaultheriæ, oz.....4

M. Sig.—One teaspoonful before each meal, in water.

R:

Quiniæ bromidi, oz.....1½
Acidi arseniosi, gr.....1
Strychniæ sulphatis, gr.....1
Ext. aconitæ, gr.....15

M. Ft. in capsulæ No. XXX.

Sig.—One after each meal.

The limb should be enveloped in cotton batting covered with oiled muslin or rubber cloth, first rubbing it with the following anodyne liniment:

R: Chloral hydrate.
Camphoræ.
Ol. cajuputi ana, one ounce.

M. Sig.—Use as a liniment.

Massage is an admirable adjunct to the treatment of sciatica.

The manner of giving massage in cases of this kind is to take the limb in both hands, press one's fingers deeply into the limb, if possible, against the sciatic nerve, and then by friction along the course of the nerve through the thigh and down to the calf of the leg, grasping the limb and pressing the fingers deep into the tissues. A great many cases of sciatica are due to a congested condition of the nerve, and that may be the result in this case. There are cases again in which there is inflammation of the nerve. You know the nerves are liberally supplied with blood vessels, and congestion of these blood vessels, at least, accounts for many cases of neuralgia. The use of the constant galvanic current, putting the negative pole over the spine and the positive over the tender points, permitting the current to pass four or five minutes through each painful point, greatly relieves such patients. Where the pain is violent, hypodermic injections of morphine may be used in some

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instances, injecting the morphine as close as possible into the nerve-trunk. Opium will relieve some of these cases, but it is a bad practice to habitually use morphine or any preparation of opium for the relief of neuralgias or sciatica. It leads a great many of these people into morphine habits. Having had an attack of neuralgia, they are liable to another, and the use of morphine in nine cases out of ten will create the injurious habit—a habit worse than the effects of the disease.

579 West Jackson Street.

A CLINICAL LECTURE.

BY D. A. K. STEELE, M. D.,

Professor of Orthopedic Surgery in the College of Physicians and Surgeons.

[Reported by William Whitford.]

DOUBLE CONGENITAL OBLIQUE INGUINAL HERNIA—MAC EWAN'S OPERATION.

Gentlemen: The next patient we present to-day will be this little child, with the following history: He is now 18 months of age; his mother states that soon after his birth she noticed a swelling in the lower part of the abdomen, just over the inguinal canal, the swelling appearing on either side simultaneously. Soon afterwards—when the child was some three weeks of age—the swelling was noticed extending lower down; along the course of the inguinal canal she observed that it increased when the child made any violent exertion, such as coughing, crying, straining, or any exercise that brought into play the diaphragm or abdominal muscles. Some weeks later she took the child to a dispensary where a truss was adjusted, but the instrument did not prevent the re-appearance of the swelling in the scrotum. During the past year a number of trusses have been applied, but none of them prevented the recurrence of the hernial swelling.

Now, when a little patient is brought to us suffering from a tumor of the scrotum it may mean one of a variety of diseases, and it is well for us to make a diagnosis by exclusion. Let us enumerate some of the various tumors that may occupy the scrotal pouch. We may in this locality have a tumor that may be either a hernia, hydrocele, orchitis, epididymitis, hæmatocele, varicocele, œdema, or a complication of two or more of these affections. How shall we differentiate these varied conditions? What will aid us in a correct diagnosis in a given case? For diagnostic or clinical purposes tumors of the scrotum may be divided into two general classes, to-wit: reducible and irreducible—reducible tumors including all herniæ (except strangulated), varicocele, and congenital hydroceles. Irreducible tumors of the scrotum include all tumors connected with the testicles, all hydroceles (except congenital), and strangulated hernia. Tumors of the tegumentary surface of the scrotum, such as inflammatory œdema, elephantiasis, and epithelioma, are usually so characteristic in their history as to offer no special impediments to a correct diagnosis.

Scrotal hernia may be mistaken for (1) hydrocele of tunica vaginalis, cord, or encysted hydrocele; (2) sarcocele of the testicle, simple, tuberculous, cystic, or malignant; (3) varicocele; (4) hæmatocele; (5) bubo or an undescended testis.

In scrotal hernia, as a rule, the tumor is soft and doughy to the touch, light weight, smooth and regular, painless unless inflamed or strangulated, of sudden advent from above downwards; resonant on percussion, fills the inguinal canal; has cough impulse, gurgles, is of normal color, opaque; may exisit on either side; the spermatic cord is concealed; does not fluctuate; aspiration is negative; bowels may be embarrassed. It can be reduced unless the hernia is strangulated or incarcerated.

In hydrocele of the testicle the tumor is ovoid or pyriform, develops slowly from below upwards; is firm, tense, and elastic; fluctuates, is transulucent, dull on percussion is irreducible; spermatic cord is

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neither concealed or displaced; the inguinal canal is empty; bowels unaffected; aspiration reveals fluid.

In congenital hydrocele the fluid disappears completely within the peritoneal cavity by compression of the tumor for a short time.

In sarcocele of the testicle the tumor is usually hard and resistant, heavy, often nodular and irregular; painful; grows slowly; dull or flat on percussion. The inguinal canal is empty; no impulse on coughing; bowels unaffected; irreducible; no auscultatory sounds. Simple sarcocle is chronic orchitis. Both the epididymis and body of the gland are affected. The cord is usually thickened. Abscess of the organ may occur. It is caused usually by injury followed by inflammatory deposits.

Tubercular sarcocele is met with most frequently in early manhood, and may occur in any constitution; in the strong and robust as well as the weak and cachectic; and although often associated with tuberculosis of other organs, it is common enough to find the tuberculous nidus in the epididymis, not as a sequence of gonorrhœal inflammation or some slight injury followed by inflammatory infiltration, as was formerly believed, but as a coincident. The progress is slow and insidious. The gland at first moderately enlarges with little or no pain, the hypertrophy being especially marked in the *globus major*. Presently the outline of the tumor becomes craggy or nodulated, and circles around the testicle from behind forwards in the form of a crescent. After several months, this adventitious tissue exceeds in size the testicle proper, and then it begins to soften at points and one or more abscesses burst and discharge a thin shreddy pus. The vas deferens is greatly enlarged.

In syphilitic sarcocele or gummata the history of the patient guides us in the diagnosis. Also, we find that the body of the gland is usually the seat of the infiltration which takes place in the connective tissue between the tubuli seminiferi, the epididymis undergoing little, if any, enlargement. The cord and vas deferens are unaffected. There is little or no tenderness, and the peculiar sensation elicited by squeezing a healthy testicle is absent. The tunica albuginea is very greatly thickened. Hydrocele is a frequent complication, and tapping is often required to establish a diagnosis.

Cystic tumors of the testis closely resemble hydrocele, and differ chiefly in being opaque instead of translucent. Aspiration should be practiced before pronouncing positivly upon their character.

Cancer of the testicle primarily invades the body of the gland, and almost invariably assumes the encephaloid form. Most observers doubt the existence of other varieties of malignant disease in this organ. The development of the disease is rapid. The patient has a sensation of weight, pain and dragging in the testis; the scrotum becomes distended, reddish or purplish, and the superficial veins are enlarged. The skin adheres to the gland, ulceration occurs, fungus protrudes, the inguinal glands are secondarily involved, and the patient by this time presents the characteristic cancerous cachexia.

In varicocele the tumor is knotty and irregular, like a bag of worms, bluish in color; most frequent upon the left side; increases in size upon the application of heat; developes gradually; is dull on percussion; fluctuation doubtful; spermatic cord not affected; inguinal canal not involved. No cough-impulse. It reduces spontaneously by any position that favors increased venous return, but returns immediately when the patient stands up notwithstanding pressure at the ring. There is weight and dragging in the scrotum.

In hæmatocele the advent is sudden, usually traumatic in origin; grows from below up if spontaneous; fluctuates until coagulation occurs; is at first soft, and hard after coagula form. It is pyriform in shape; ecchymotic, irreducible, heavy, dull on percussion. The spermatic cord is unaffected, and the inguinal canal empty.

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There is often pallor and prostration from loss of blood. The bowels are unaffected.

Bubo is seldom mistaken for a scrotal tumor, and it is unnecessary to name differential points.

An undescended testicle is painful, and pressure upon it yields a peculiar sickening sensation. It is found wanting upon the side occupied by the tumor, and the scrotum is imperfectly developed upon the same side. It is sometimes mistaken for bubonocele.

Now, gentlemen, I trust the minute enumeration of diagnostic points mentioned in connection with these various scrotal tumors may not be considered tedious or unnecessary, and that a remembrance of them will aid you in making a correct diagnosis.

Let us refer to the points presented in the case of this little child. We have here a soft, elastic, compressible, reducible swelling, occupying both sides of the scrotal pouch; cough-impulse is present; gurgling is plainly felt. Upon flexing the thighs, elevating the hips, grasping the scrotum gently, by making moderate compression the tumor disappears within the abdominal cavity. Inversion of the bottom of the scrotum by the little finger enables us to readily follow the receeding mass through the dilated inguinal canal and distended inguinal ring into the abdominal cavity. With the history presented, and with the result of this physical examination, we are readily enabled to make a diagnosis of *double congenital oblique inguinal hernia.* Now, inasmuch as persistent efforts during the past year have been made by able surgeons to retain this hernia *in situ* by various trusses without success, what plan of treatment shall we devise? The treatment of this affection, as you know, may be divided into *palliative* and *radical*, or *curative.* Palliative treatment consists in the use of such apparatus, instruments, or trusses, fitting over the inguinal ring as will prevent the extrusion of the hernial tumor—fitted with sufficient nicety and adaptation to the contour of the parts as to inflict the minimum amount of pain, and yet with sufficient firmness to resist the intra-abdominal and intra-thoracic pressure induced by coughing, crying, straining during urination or defecation, or any exercise of the voluntary muscles that produce downward pressure upon the abdominal viscera. In a large proportion of cases a nicely adjusted truss, worn continuously during the first few months or year or two of infantile life, will suffice to effect a permanent occlusion of the distended inguinal ring, but occasionally we meet with cases, such as the one we have just examined, where a cure is impossible by means of any truss. Where it is impossible to retain the hernia within the abdomen, then it becomes necessary to resort to more radical measures—to a closure of the enlarged canal by means of a surgical operation. One of the best operations for this purpose is that devised by MacEwan, of Glasgow.

MacEwan's operation consists first in a thorough cleansing of the field of operation with soap and water, removing by means of turpentine all animal oil from the surface; the parts are then covered with a portion of lint, saturated with a bichloride solution. In the case of an adult the hair of the pubes and neighboring parts is closely shaven; the patient is then anæsthetized, the limb on the side of the swelling is flexed at the knee by a pillow just placed underneath. After having reduced the bowel, he makes an incision sufficient to expose the external abdominal ring. An exploration of the sac and its contents is then made, and the finger introduced through the canal examines abdominal aspects of the internal ring and the relative position of the epigastric artery. The operation may then be divided into two parts—the one relating to the establishment of a pad on the abdominal aspects of the internal ring; the other to the closure of the inguinal canal. The steps of the operation are as follows: He first frees and elevates the distal extremity of the sac, preserving

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along with it any adipose tissue that may be adherent to it. When that is done, he pulls upon the sac, and, while maintaining tension upon it, introduces the index finger into the inguinal canal, separating the sac from the cord, and from the parietes of the canal; then inserts the index finger outside the sac till it reaches the internal ring, and there separates with its tip the peritoneum for about half an inch around the abdominal aspects of the circumference of the ring.

Next, the stitch is secured firmly to the distal extremity of the sac, the end free is then passed in a proximal direction several times through the sac, so that when pulled upon the sac becomes folded upon itself like a curtain. The free end of this stitch, threaded on a hernial needle, is made to traverse the canal and to penetrate the anterior abdominal wall about an inch above the internal ring, the wound in the skin being pulled upward so as to allow the point of the needle to project through the abdominal muscles without penetrating the skin. The needle that he uses is corkscrew-shape with an eye in the point, being made rights and lefts. The thread is relieved from the extremity of the needle, when the latter is withdrawn; the thread is pulled through the abdominal wall, and when traction is made upon the sac, wrinkling upon itself, it is thrown into a series of folds, its distal extremity being drawn farthest backwards and upwards. An assistant maintains traction upon the stitch until the introduction of the sutures into the inguinal canal, and when this is completed the end of the stitch is secured by introducing its free extremity several times through the superficial layers of the external oblique muscle. The pad of peritoneum is then placed upon the abdominal side of the internal opening, where, owing to the abdominal aspect of the circumference of the internal ring having been refreshed, new adhesions may form. The sac having been returned into the abdomen and secured to the abdominal circumference of the ring, the inguinal canal is closed outside of it in the following manner: The finger is introduced into the canal and lies between the inner and lower borders of the internal ring, the threaded hernia needle, then introduced and guided by the index finger, is made to penetrate the conjoined tendon in two places—*first*, from without inwards, near the lower border of the conjoined tendon; *second*, from within outwards as high as possible on the inner aspects of the canal. This double penetration of the conjoined tendon is accomplished by a single screw-like turn of the needle, one single thread is then withdrawn from the point of the needle by the index finger, and when this is accomplished, the needle along with the other extremity of the thread is removed. The inner side of the conjoined tendon is therefore penetrated twice by the thread, and a loop left on its abdominal aspect. Second, the other hernia needle, threaded with that portion of the stitch which comes from the lower border of the conjoined tendon, guided by the index finger into the inguinal canal, is introduced from within outwards through Poupart's ligament and the aponeurotic structures of the *transversalis internal and external oblique muscles;* it penetrates these structures at a point on a level with the lower stitch in the conjoined tendon. The needle is then completely freed from the thread and withdrawn. The needle is now threaded with the gut, which protrudes from the upper border of the conjoined tendon, and introduced from within outwards through the transversalis internal and external oblique muscles on a level corresponding with the upper stitch in the conjoined tendon. It is then quite free from the thread and withdrawn. There are now two thread ends on the outer surface of the external oblique muscle, and these are connected with a loop on the abdominal aspect of the conjoined tendon. To complete the suture the two thread-ends are drawn together and tied in a reef knot; this unites firmly the internal ring. The same stitch may be repeated lower

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down the canal, if thought desirable. In adults it is well to do so. The pillars of the external ring are likewise brought together, and in order to avoid compression of the cord it ought to be examined before tightening each stitch; it ought to be freely movable. It is advisable to introduce all the necessary sutures before tightening any of them. When this is done, they may be all drawn, tied, and maintained so, while the operator's finger is introduced into the canal to ascertain the result. If satisfactory, they are then tied, beginning with the one at the internal ring, and taking up the others in order.

During the operation the skin is retracted from side to side to bring the parts into view and to enable the stitches to be fixed subcutaneously. When the retraction is relieved the skin falls into its normal position, the wound being opposite the external ring. Operation is therefore partly subcutaneous. When the canal has been brought together a decalcified bone drainage-tube is placed with its one extremity next to the external ring, the other projecting beyond the lower border of the external wound. A few chromatic gut-sutures are then introduced along the line of skin incision. Iodoform is dusted over the wound; a small portion of sublimated gauze is applied, and on top a sublimated pad, held in position by an aseptic bandage. As the patient is laid in bed, a pillow is placed under his knees, while his shoulders are slightly raised so as to relax the tissues about the canal. Temperature is taken night and morning, at the same time dressings are inspected and left undisturbed from fourteen to twenty-one days, unless they are stained or the temperature is abnormally high. From four to six weeks after the operation patient is allowed to rise from bed, but is not permitted to work until the end of the eighth week; is further advised not to lift heavy weights until the end of the third month. Adults engaged in laborious occupations are advised to wear a bandage and pad as a precautionary measure; and in the majority of children the closure is so complete and firm that further treatment by pad is unnecessary.

In the case of this little child, who is now under the influence of an anæsthetic, we will have to modify this operation, inasmuch as we have to deal with a congenital hernia in which the loop of bowel and testicle occupy a common sac; there is no tunica vaginalis proper. We will first make the preliminary incision thus; separate the sac from its connections; then open it transversely about an inch and a half above its distal extremity, and form the lower part into a tunica vaginalis by closing it with fine running catgut suture. The upper part of the sac is pulled down as far as possible now, split behind longitudinally, a portion of it closed around the cord, which is carefully preserved, and that portion which is left is now dealt with as the sac of an acquired hernia; passing a stitch through its distal portion through and through, so that it becomes folded up as a curtain, then with the finger I separate the attachments around the circumference of the abdominal ring. We then pass a needle through the abdominal wall an inch above the ring, bringing the thread out, where it is held by an assistant; drawing upon this cord forms the intra-abdominal pad or boss that forms a firm buttress to resist the impulse of the wave of intra-abdominal pressure.

We now proceed to close the internal ring in the manner described, passing two or three sutures along the course of the canal, drawing them snugly together, yet not tight enough to strangulate the cord. A drainage-tube is now passed from the upper angle of the wound and brought down through a button-hole in the bottom of the scrotum so as to afford perfect drainage. Parts are now irrigated with a 1-3000 solution of bichloride, the wound closed with interrupted catgut sutures, dusted lightly with iodoform, and hermetically sealed with cotton and collodion so as to

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prevent infection from the urine, which is liable to occur in a case of infants or young children. In closing up the wound in this way we reduce the risk of infection to a minimum. A heavy antiseptic dressing will now be applied, covered over with a starch bandage. The child will be kept as quiet as possible, small doses of camphorated tincture of opium administered from time to time, and the dressing will probably have to be changed every second day. The mother will be directed to keep the child lying on the left side as much as possible, so as to avoid soiling of the dressing during urination. The operation on the left side will be deferred until permanent healing of the right has taken place—say for two or three weeks.

A week later the child was presented to the class showing primary closure of the operation wound, except at the upper angle and the scrotal button-hole through which the drainage-tube emerged. Slight suppuration took place along the course of the drainage-tube. The highest temperature was 100.5° the day following the operation; the second day it dropped to 98½°, and remained normal subsequently, the child showing no symptoms or evidences of having undergone a serious or dangerous operation, the result so far being in every way eminently satisfactory.

1801 State Street.

EDITORIAL.

THE MULTIPLICITY OF MEDICAL SOCIETIES.

When the American Medical Association was organized, forty years ago, the object of its originators was, undoubtedly, to fraternize the members of the profession in the United States by annual meetings, and to add to the general store of medical knowledge by a conference of the medical men of the whole country.

Why this worthy and desirable object has not been fully attained is evident. At the time of the organization of the association the undeveloped condition of the country, the great distances necessary to be traveled in order to attend its annual meetings, held at different points, made it difficult for many to be present.

Local societies were developed to accommodate those who could not attend the meetings of the association.

Then, about twenty years ago, the tendency to the formation of specialties was developed, and from that time has run into an extreme. Again, local societies were organized to furnish these specialists fields in which to discuss their theories. Thus, city, village, county, district, and State medical societies multiplied, until now the number is so great, the times and places of meeting so many, that it is difficult for one to remember even the names of such organizations. The number of such general societies of regular physicians, published in a recent medical and surgical directory of the United States (1886), is 648. To these must also be added more national societies of specialties.

These societies have, therefore, diverted many contributions of knowledge from their proper repository — the American Medical Association. From being a source of only good, they have interfered more or less with the object of the parent organization, through their tendency to separate too much the departments of medicine. The growing tendency of recent years to drifting apart—to isolation—on the part of specialists is not in their interest, and is to be deprecated for many reasons.

We recognize the advantage of the division of labor for those qualified for special work. The contributions to the science of medicine by the qualified workers has given prominence to specialists, and tempted younger, unqualified men to attempt special fields of labor, and to organize more special societies. Limited professional experience has led many to ignore the advantage of a broad, liberal education, and many have acknowledged that they know but little outside of their

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special field, thus practically separating themselves from the profession. What began as an advantageous principle has been abused in many instances, and this tendency to isolation has been, in some respects, a detriment to the profession by the holding aloof of many able specialists from the American Medical Association, and thus interfering with her attempts to foster and cultivate these special fields, and materially diminishing the contributions from those fields of study that should reach the profession through that organization, which, more fully than any other, represents the whole profession of America.

Although mistakes have been made by the parent institution, as all will admit, it is evident to an unprejudiced observer that the desire is to adhere to its original object in its formation. The growth of the institution embarrasses it in carrying out the original plan; but its faults are not insuperable, and if those who have become alienated from it, and established or identified themselves with other organizations that semingly are conflicting with its interests, were to manifest the same interest and zeal in promoting the welfare of the association, by attending its meetings and contributing to its scientific work, many of its mistakes would be corrected, and an identity of interest of the medical profession be maintained.

It is now recognized that our civil war was largely the outgrowth of the want of closer intercourse and better acquaintance between the different sections of the country. It is not impossible that the same factors have been active in producing some of the existing alienations from the American Medical Association. It is much to be desired that the next meeting of the association, at Cincinnati, this year, may show the existence of better feeling.

DANGERS FROM PROTRACTED INHALATION OF ETHER.

W. Gill Wylie, M. D., in the *Medical Record of March* 31, 1888, presented to the profession a summary of a year's work in abdominal surgery. The record is brilliant; out of forty-one operations for the removal of the uterine appendages but one death occurred, and that was from acute interstitial nephritis. Of seventeen ovariotomies, one died from suppression of urine, on the fourth day. The autopsy revealed chronic and acute diffused nephritis, with cirrhosis of the liver. One case of supra-pubic hysterectomy died of exhaustion, while two laparotomies, one for extra-uterine pregnancy, and the other for septic pelvic abscess, resulted fatally.

From the foregoing it appears that in two of the cases death was caused by inflammation of the kidneys. Dr. Wylie attributes the death of one of the patients to prolonged use of ether in the operation. This emphasizes the known dangers of ether inhalation, particularly in prolonged operations, in persons suffering from chronic interstitial nephritis. For years ether has been considered in the United States the anæsthetic *par excellence* so far as safety is concerned. Those appaling accidents in which a patient dies on the operating table were comparatively infrequent, and the *mortality* of ether as compared with chloroform was roughly estimated at from one to fifteen. The *nexus* between kidney complications and the inhalation of ether has been too often overlooked, and yet the records show many fatalities, in which the findings at the post-mortem table are not different from those in Dr. Wylie's cases. It is possible that, could the records be made up completely, the mortality from ether and chloroform in prolonged operations would vary less.

The practical lesson is that we should *never*, in such cases, administer an anæsthetic without first carefully examining the heart and urine. The latter should be especially examined for traces of albumen; but of more importance than that is the estimation of the total solids excreted by the urine. Of course tube-casts, or other evidence of gross kidney lesion,

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should at once contra-indicate the use of ether. The estimation of the quantity and solids of the urine furnishes the true index of the integrity of the renal structures and of their capacity to bear any added strain.

It may be argued that this is a troublesome and complicated procedure. But in these days when the mortality from surgical operations has reached such a diminishing point, the proverbial "one chance in a hundred" cannot afford to be missed by the enterprising surgeon.

Pneumonia is a sequela of ether-inhalation by no means infrequent, and one of those which readily escape estimation in tables illustrating the comparative safety of different anæsthetics.

CYANOSIS CAUSED BY ACETANILID

This condition, while not as frequent as the writings of Germain See would indicate, is yet sufficiently common for us always to warn our patients, that they may not be unnecessarily disturbed by such an alarming symptom.

The drug was recently prescribed by the writer for a lady living in an adjoining State. At first it caused no marked symptoms and relieved the hadache for which it was given. One morning, however, after taking two powders, of five grains each, she noticed that her lips were purple; later, her ears, fingers, and face turned the same color. The lady was thrown into the utmost distress, and alarmed her friends. She had suffered from a mild attack of hemiplegia, and these untoward symptoms were looked upon as the sure precursors of death.

A physician recently related an amusing case, to the physician at least, occurring in his practice. He had attended a lady in confinement, the child dying a few days later from general cyanosis. Shortly afterward he prescribed acetanilid for the mother. The following night he was hastily summoned to her house and informed that she was dying from the same disease, which she had *caught* from her child.

This idiosyncrasy is certainly very variable. It is more frequent where large doses are given, but many persons are affected by a small quantity. Again, some patients take the drug for some time before cyanosis develops. The writer has given the drug for weeks, in one instance for five months, without the appearance of this symptom.

So far as our knowledge extends, the condition is free from danger, and does not contra-indicate the use of the drug where the patients do not object. The cyanosis promptly disappears after the withdrawal of the remedy.

SUITS FOR ALLEGED MALPRACTICE.

Numerous suits for alleged malpractice have recently been entered in this and other cities against some of its eminent surgeons. The defendants are generally known to be careful and conscientious surgeons. Attention is called to the charge made simply to emphasize what is known to all, that character, above reproach in every way, does not protect its possessor from malicious prosecution. If human nature were free from venality, the ingratitude which prompts such suits might be allowed to pass without special comment, but there are believed to be, unfortunately, members of another learned profession always willing to undertake such prosecutions as a speculation.

Suits for alleged malpractice are susceptible of a dual division. In one are included all those in which the plaintiff really thinks the defendant guilty of the charge, when in point of fact he is not; and the other includes those in which some venal attorney makes his fee contingent upon his success in securing a verdict for the plaintiff, and urgently advises the bringing of the action at law. A case was recently decided in the courts at Boston in a manner which is interesting in this connection. The case was tried four times.

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At the opening of the last trial a motion was made by the defense, and granted by the court, that in case the jury decided in favor of the defendant the plaintiff must pay the costs for all four of the trials. The verdict was for the defendant. This is just, as far as it goes, but is not sufficient.

The plaintiff bringing any such suit ought not only to pay all costs of unsuccessful trials, but ought also to be compelled by the law to give a bond for an amount sufficient to indemnify the defendant in case of failure of the plaintiff to establish the claim made. If unsuccessful, he should be compelled at least to pay, in addition to the costs of the trial, the expense in which the suit involved the defendant. This matter is one of interest to all physicians, since, as the instances cited show, no physician or surgeon is certain of immunity from such prosecution, and while he is not hedged about by a divinity which should protect him from criminal neglect of his duty, he and all other men should be guarded, more securely than at present, against the annoyance, injury to reputation, and the expense of malicious prosecution.

THE SURGEON-GENERAL OF THE NAVY.—Surgeon-General Browne of the navy has entered upon the discharge of his official duties as the head of the medical corps of the navy. The appointment has given marked satisfaction, not only to that corps, but to the medical profession generally. As the director of the *Museum of Hygiene* of the navy, for several years, he did much to make it the great credit that it is to that branch of the service. In all his official relations, in his long career in the navy, the discharge of his duty has been such as to have entitled him to this marked distinction. He enjoys the honor of having been the surgeon of the famous *Kearsarge*, in the battle in which the *Alabama* was sunk off the coast of France

The *Journal and Examiner* tenders to Surgeon-General Browne, who has been one of its corps of collaborators for several years, its congratulations upon his well-merited advancement in his corps.

THE RUSH MONUMENT COMMITTEE of the American Medical Association will report progress at the next meeting of the association, at Cincinnati, on the 8th instant. We trust that that report will indicate that the medical profession of America is willing to honor the memory of one of the most illustrious members of the profession that America has produced. Other countries have not failed to perpetuate the memory of their illustrious physicians in this manner, but the omission, in this respect, on the part of America, that has been liberal in honoring others of her distinguished citizens, is the more conspicuous. The claims of Dr. Rush on all classes of citizens because of his great services, and their varied character, make it fitting that one who participated so prominently in the cause of our national independence, and who was an ornament to the medical profession, should be one of the first to be thus honored by those upon whom the honor of his life-record is reflected.

EXTRACTS AND ABSTRACTS.

STUDIES ON THE ETIOLOGY OF CARCINOMA.

[Berliner Klinische Wochenshcrift, No. 10]

[Translated by Dr. Lester Curtis.]

Our present time may be well called the etiological era of medicine. Following the movement in this direction there is a disposition to regard carcinoma as an infectious disease, in the sense that a pathological irritant is deposited in the tissues, which excites there histologically distinct characteristic carcinomatous growths.

The grounds for this opinion, which I have not found collected in the text-books and monographs, I may give briefly as follows :

In the first place, the spreading of the carcinomatous growth agrees throughout, tolerably exactly, with that of an inflamma-

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tion. Both extend into the lymphatic vessels, and just as we know pyæmic metastases, in the same way are there carcinomatous metastases.

As a second reason, I might bring forward the quite rare cases of general miliary carcinoma, which run their course attended by fever, disturbances of the digestion and circulation, and show the greatest resemblance to miliary tuberculosis, so that the differential diagnosis is only to be made by the use of the microscope.

These cases can be explained, according to our general pathological knowledge, in no other way than by the view that the germs of the disease come into the blood in great numbers, and are deposited in different parts of the body at the same time. The difference which these multiple emboli present to us, from those embolic plugs which the fundamental work of Virchow and Conheim have made known, lies in this, that the surrounding tissue takes on a similar growth. When we consider that the carcinomatous metastases and the nodules in miliary carcinoma occur through an embolic deposition of the cancer germs, since it can scarcely occur otherwise, then the cancer germ, or cancer poison, must, of course, be smaller than the section of the lung capillary, since it must have passed through these capillaries.

As the last reason, may be mentioned tar, paraffine, and chimney-sweep's cancer, described principally by Von Volkmann, in a correct estimation of their etiological relations. These cancers, as is well known, develop occasionally in strong young mechanics, on places of the body where otherwise cancer is a rarity, namely, on the upper and lower extremities and on the scrotum, after a preceding chronic dermatitis. The skin affection heals when the laborers give up their injurious occupation, but in other cases becomes a chronic hyperplastic process, which often effects the whole body and develops sometimes an eruption like psoriasis, or even papillary excrescences. Sometimes the character of this skin inflammation changes and becomes of a decidedly malignant carcinomatous character.

We must, of necessity, grant that some sort of influence, standing in a certain relation to the tar and paraffine, reaches the place from without (whether a poison or a living form) so as to cause the benign inflammation to pass into a carcinomatous one, or, histologically expressed, in order that the hyperplastic process may be stirred up to an atypical destructive growth. We may not accept the view that this influence, this unknown agent, forms itself, as it were, first from within outwards in the chemically altered cells; on the coutrary, this comes from without; in short, the agent depends upon an infection.

Other reasons which are usually alleged for the infectiousness of cancer appear not to be so demonstrable and clear.

I might, in addition, enumerate the seborrhagiac skin carcinomas, the cancers occurring after the so-called "psoriasis buccalis" (Volkman-Schuschardt). Also, those carcinomas which arise, as it were, through contact. For instance, Von Bergmann presented briefly to the Berlin Medical Society the case of a man with a carcinoma of the upper lip, which had formed directly over one already existing on the under lip.

Cases also have been described (Israel and others) in which, for example, after a carcinoma of the tongue or of the buccal cavity, secondary nodules had grown in the digestive tract; and cases are reported in which, after tapping a carcinomatous peritonitis, the growth had followed along the line of puncture. And finally reference is made to carcinomas occurring after chronic ulcers of the leg, bone fistulas, tooth fistulas, burns, etc.

Though infection can not be denied in all these disturbances, still the cases are not absolutely demonstrative, for the disease could also have occurred in these places without preceding inflammation; it is also quite natural that in a vigorously growing carcinoma, the growth should follow in the

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direction where the least mechanical resistance exists, *i. e.*, in the line of puncture.

Whether the above reasons justify the view of the infectiousness of carcinoma must be left to the judgment and convictions of each

But we can, on the foundation of histological and bacteriological studies, assert with tolerable certainty that the irritant of carcinoma can be no bacterium with the properties which we have become acqainted with in the bacteria. All the pathogenic bacteria known to us, planted on any part of the body, cause disturbance and processes of homoöplastic or homologous nature that is, disturbances and processes which are formed and kept up by growths and proliferations of the cells which are already in the place.

Tubercle, for instance, is nothing more than a collection of round cells and epithelioid cells, whose histogenesis has not been observed to be perfectly uniform.

Great actinomycotic tumors, also, looked at histologically, are essentially only rankly growing connective tissue and white blood corpuscles. Connective tissue, white blood corpuscles, and fixed cells exist everywhere in the body. These processes are, therefore, homoöplastic or homologous.

Up to this time we know no bacterium which can induce heteroplastic growths, *i. e.*, growths of such cells, or such typical compounds of cells as are not at all present in the infected spot concerned. But now, as is well known, the metastases of the carcinomas and their secondary nodules are mostly of the same histological epithelial structure as the primary cancer, even in the place where no epithelium is usually present. Every carcinoma of the mamma, for example, causes in the axillary glands the typical epethelial nests, although, no epithelium is present in the lymphatic glands.

In this connection, after a hard cancer (Horn-Krebs) of the skin, there resulted in the neighboring lymph glands, not only a typical carcinomatous epithelial growth, but even the well-known corneus structure was present exactly as in the primary skin cancer.

This typical continued repetition of an epithelial growth in a place where no epithelium at all occurs, we cannot explain by a simple bacterium. If we suppose there is a micro-organism or a disease-irritant, to which we allow a certain relation to the cell, or, in the sense of our kariokinetic studies, to the cell nucleus or the divisions of the nucleus, so that the micro-organism together with the cell, or the infected cell, affords the first foundation for the further infection, the theory would much rather harmonize with the facts. We could very well imagine that the infected nucleus or division of a necleus might easily pass the pulmonary capillaries and set up heteroplastic growths. In any case the mechanism of the etiology of carcinoma is much more complicated than many authors seem to imagine; and to-day it is much more difficult to explain fully the etiology of carcinoma than it was to make clear the etiology of tuberculosis at the time of Conheim and Salomonsen.

Up to this time, so far as I have been able to look over the literature, no investigator appears to have made a successful inoculation of a cancer from one animal to another, or from a man to an animal, or from one man to another, or upon the same individual.

The earlier investigations were all spoiled, since circumstances were not such as to avoid suppuration and pyæmia; accordingly that was looked at as general inoculated carcinoma, which was in reality a focus of embolic pyæmia.

The one case of Langenbeck, also, which would be gladly brought forward as one of successful inoculation, appears not to be raised above this doubt. For, not to mention that it occurred at a time of the greatest confusion in regard to the carcinoma question, when men like Virchow, Müller, Henle, Reichert, Remak, and others, were

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busied in making firm the histological character of carcinoma, it might be a matter of great difficulty to make a correct diagnosis out of a nodule the size of a lentil in the lung of a dog.

Virchow, himself, also, in his great work on tumors, says that, judging by the forms, cancers resemble more the growths already present in the dog than such as are produced by inoculation with human cancer cells.

As to the cases of Nowincki it seems only necessary to mention the circumstance that only a preliminary communication has appeared, but never, so far as I know, a completed work.

I, myself, therefore undertook, in the laboratory of Professor Weigert, investigations, aseptically, with absolute freedom from suppuration, on mice, rabbits, and dogs. I inoculated under aseptic cautions, subcutaneously, among the muscles or in the abdominal cavity. Since the inoculations ran, on the whole, a tolerably similar course, a description of one will suffice for a record.

On the 14th of November pieces of carcinoma of the size of a small lentil were inserted under the skin of the back of four white mice, two hours after extirpation (mammary carcinoma). For this purpose the hair was cut off from the place of inoculation; it was washed with sublimate; then this was removed with alcohol, and the alcohol with ether.

November 18. Fixation of the piece on the skin beginning.

December 3. Piece of carcinoma somewhat enlarged, grown firmly to the skin, loosely to the subcutaneous connective tissue where it may be moved. Mouse quite lively.

December 7. Tumor decidedly enlarged, as large as a large bean, feels hard like a carcinoma. Mouse lively.

December 11. Tumor grown still firmer to the skin, appears to have moved upwards. It has become smaller, but is still larger than a lentil.

The tumor was cut out, together with the surrounding skin, and a microscopic investigation undertaken. This gave the following result: Three zones may, without difficulty, be distinguished in a microscopic section.

(a) A homogeneous, structureless centre. In the middle of the cancer node, a part of the cancer mass is not at all present, but there exists a longish oval opening corresponding with the form of the piece of cancer. This opening is evidently the result of softening and absorption of the central piece. Farther towards the periphery, there are found some round cells in the structureless zone.

(b) The second zone is the remainder of the inoculated and now entirely changed piece of cancer. Of the alveolæ furnished with epithelium, there is scarcely anything to be seen, only on some places the former cancer structure is feebly indicated and recognized with difficulty. On the other hand, the whole piece of cancer is filled with numbers of easily stained round cells. Near by can be recognized large epithelial cells stained very feebly or not at all, and spindle cells in exactly the same condition.

The staining is, for the most part, still only possible in the nucleus, while the protoplasm is quite pale and difficult to recognize.

(c) The third zone is separated at the periphery, especially in the sub-cutaneous connective tissue. It consists, there, of a vigorous growth of young, succulent connective tissue with large spindle cells. In the further course these cells become smaller and the connective tissue becomes poorer in nuclei, which keep on growing smaller until they become like the ordinary subcutaneous connective tissue.

The many blood vessels are noticeable. They are filled to distension and bear a wreath of extruded white blood cells in their walls and around them. These vessels enter, for the most part, from the side and from below, *i. e.*, from subcutaneous connective tissue, and evidently send

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branches into the changed cancerous growth. In many places they are very numerous and run in a radial direction or parallel to one another.

* * * * * *

If the natural course of the destiny of the inoculated piece of cancer is not interrupted, then it will be either perfectly absorbed until there remains at last nothing more than a small scar from the inoculation; or the tumor, after the connection with the rete, becomes smaller and continues to move upward, *i. e.*, toward the surface of the skin. The skin ulcerates at some place and the tumor is, in a few days, pushed out. After this, the tolerably round and smooth bordered wound in the skin soon closes.

That the increase is not to be ascribed to an independent growth of the tumor, which is only successfully combatted by the peculiar resisting power of the animal tissues, or through the constitutional relations of the animal, is shown in this way, that one gets exactly the same picture of adhesion and enlargement, then of diminution, extrusion, or absorption, if he implants physiological tissue in place of the piece of carcinoma.

I have for this purpose made use of a lymphatic gland or a piece of a freshly excised breast gland.

The result of all inoculations I can so far sum up: I did not succeed in animals—mice, rabbits, dogs—in producing a carcinoma artificially by implantation. An enlargment of the piece of carcinoma which has been introduced often occurs, but it is only apparent, and is to be explained by the penetration of numerous white blood corpuscles, the new formed blood vessels and, perhaps, new formed connective tissue rich in nuclei. An independent growth of the implanted carcinomatous cell compound into the neighborhood does not result. On the contrary, the piece of carcinoma is to be considered like an organic dead body in the living organism.

The result of the inoculation is no better if the animals are placed in the most horrible hygienic relations, *i. e.*, they may be allowed to be hungry and wet. For example, the limbs of three inoculated mice sloughed off through the carelessness of the servant. The animals recovered and were quite healthy again, but the piece of carcinoma did not grow at all.

These negative results, which, as I accidentally learned during my lecture, have been also mentioned by other authors (Oscar Israel and Alberts), do not justify us at all in doubting the absence of results from inoculation. There must first be many more experiments conducted by various authors, in somewhat different form. It should be necessary according to my impression:

1. To change the place of inoculation so as to bring the piece of the carcinoma into different organs and neighborhoods, or to make arterial and venous injections, and other similar modifications. Koch, for example, could produce cholera in the duodenum alone.

2. A certain form of cancer, in a histological sense, should be chosen for inoculation, or a cancer in a certain stage of growth, since it might be possible that the poison, virulent in these only, is divested of power in other cancers.

3. The animals, most properly dogs or apes, might, in the sense of Beneke, be placed in the most favorable predisposition.

Alberts has made an attempt, undoubtedly negative, with this end in view.

The most favorable material is in every case an individual already suffering with cancer, then apes, after that, dogs, etc.

Hahn introduced under the skin of a woman suffering with carcinoma of the breast, a piece of her own cancer, and reported that it grew. Virchow was able to reply, very shrewdly and pointedly to this, that the infection is not demonstrated by this growth alone, since, then, all implantations of hair, as well as all Reverdin-Thiersche's transplantations of hair and

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skin upon an infection, may be included. Unfortunately the communication of Hahn was only very short, but if he could show that the piece of carcinoma not only grew but penetrated into the surrounding tissue, and this stimulated to a new growth, then an important step in advance would have been made.

According to my views of the etiology of cancer, which I have expressed above, I could not hope to go further in the question of infection, on the line of microscopic study of bacteria. Nevertheless, I undertook this task in order to be clear concerning the bacilli, which are, on various sides, asserted to be the cause of cancer, and also to guard by a warning from unpromising studies those investigators about to enter upon this, as I believe, mistaken path. I do this because a whole class of authors have pronounced in favor of the bacillus described by Scheurlen, some of these ratifying them through their own observations, some even claiming the priority.

I will only briefly mention that Schill asserts the presence of bacilli in cancer, and of filamentous fungi in carcinoma and sarcoma. Concerning their etiological meaning he certainly says nothing.

Then, O. Friere, in Rio and Perrin, later Barnabei and Sanarelli, both in Siena, asserted that they found the cancer bacillus; indeed, the latter claim to have produced cancer artifically in animals by their means.

Finally, Franke of Von Ziemssen's clinic (Münch. Med. Wochenschr. No. 4) has quite recently confirmed in essentials the investigations of Scheurlen; indeed, he goes so far as to assert that he has found the bacterium in the blood of carcinomatous and sarcomatous patients!

I will delay, however, on the work of Scheurlen only, since this seems to me, relatively, the most of all deserving of attention.

According to Scheurlen, a third of the dried preparations made from the cancer juice, should contain spores that ought to stain in the well-known way. I could not satisfy myself of the presence of these spores, but saw only fat drops, which appear exactly like spores. If a soft piece of cancer is vigorously shaken with ether and chloroform in a test-tube, by which the fat is extracted, then we may convince ourselves that the fat drops which are impressing themselves as spores, diminish and disappear. I have seen quite large cells whose protoplasm appeared granular as though filled with many cocci. But these granules were much smaller than the spores.

Besides on theoretical grounds it may be seen that the discovery of spores must be insecure and contradictory. If so many spores are contained in the juice, then these must grow to bacilli, which must be much easier to see than the spores. Now, Scheurlen says that he has found very few bacilli in the juice. In the sections he has seen neither bacilli nor spores. Besides all this, the spores (?) stain remarkably easily, and grow with extraordinary rapidity to bacilli.

A rich material of cultures and inoculation is at my command. * * * * I was able, therefore, to work with ten carcinomas. I did not confine myself to the nutrient soil used by Scheurlen, but at the same time made use of all at our command; gelatine, agar, combinations of the two, coagulated beef and sheep's blood-serum, human ascites fluid, fluid or coagulated, or gelatinized (5–8 per cent.) or, mixed with agar (1–1½ per cent.), potatoes. I have used the ascites fluid agarized when in a fluid state, because, at one time, I failed in a remarkable way to coagulate this even in a steam apparatus at 100° (212° Fahr.). I can not give the reason for this failure to coagulate. I was obliged to carry the fluid for some distance in great cold so that perhaps the albumen was modified.

For coagulating the blood-and-ascites-serum I found the well-known Koch's dry chamber required much time, and was ex-

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pensive on account of the great amount of gas required. I made use, therefore, of an apparatus which is founded on a water bath, in which only the ends of the tubes lie obliquely in the water. In this is a thermometer on which the temperature is read at which the serum coagulates; for it is proper to determine this temperature of coagulation, since it is not at all constant and by no means fixed at 60° (140° Fahr.). I was often obliged to go to 78°, 80°, 81° (172.4°, 176°, 177.°8 Fahr.). After determination of this temperature, cold water is poured in to 10° (50° Fahr.) or less, a row of tubes is laid in the water-bath apparatus, and the water heated to near the point of coagulation. It is very easy to keep a certain temperature by regulation of the flame or pouring in of water.

By this water-bath chest a number of tubes are prepared in a very short time (10 minutes), while with Koch's chest it is often necessary to wait half an hour and longer, and a temperature from 80° to 85° (176° to 185°Fahr.) is very difficult to obtain. To be sure, the serum is often somewhat less clear.

In the two first carcinomas, I made use, like Scheurlen, of cancer juice; in the following inoculations, always of pieces of cancer which, now and then for purposes of demonstration, were as large as a cherry. For the most part I have inoculated.

10 tubes gelatine.
15 tubes agar.
20 tubes beef and sheep's blood.
20 tubes human ascites fluid.

The latter was usually coagulated, but with two carcinomas, quite fluid human serum was used, agarized and gelatinized, since this would not coagulate. With the exception of the gelatine, the tubes were put in a thermostat at a temperature of 39° (102.2° Fahr.), and remained there at least one month, very many for more than two months.

Although the inoculations undertaken by me are more than 350, a specific bacterium has never grown, so that I am justified in the following proposition:

We do not succeed, with all our present culture soils and usual methods, in cultivating a bacterium from a cancer which stands in an etiological relation with the growth.

Of course, I have sometimes got bacteria, as is not to be avoided in the cleanest and most skillful work in bacteriology; there were, on an average, among twenty tubes always two or three contaminated, therefore a very good result. Among others I have got a yellow sarcina, and once, the *Staphylococcus aureus* from a carcinoma that I carefully inoculated the second time, twenty-four hours after extirpation, while the inoculation of the same cancer the first time did not give this purulent bacterium. It must therefore be granted that this bacterium, the *Staphylococcus pyogeneus aureus*, existed in the air of the laboratory.

But Scheurlen's bacterium I have never obtained, except in one inoculation, considered below, and can assert that it was not contained in the carcinoma.

Since Scheurlen not only holds firmly to his baccillus, but asserted that he had verified the diagnosis of cancer by a puncture for the gastric juice and the discovery of the bacillus, therefore, I do not consider it snperfluous to remark that I have made a subcutaneous injection of the bacilli given me by Scheurlen himself, in dogs, rabbits, mice, and a dove, without producing in any way a pathological disturbance.

I will not enter further upon a wider criticism of the work itself, only I might emphasize that if so many spores are contained in the cancer juice, Scheurlen, himself, by his own inoculations ought to have obtained much more successful cultures.

Further, it is without an analogy that a bacterium taken out of the body should grow on a single soil only, but afterwards may be transferred from this soil to every possible one, with vigorous growth. Although such a possibility may not be completely denied, Scheurlen certainly ought to have given much greater attention and deeper study to this remarkable fact. He should,

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at least, have sought an explanation for this discord.

And, finally, a chief characteristic of a bacterium is lacking in the work, namely, the behavior upon agar and gelatine plates.

In fact, on the ground of my inoculations and the above theoretical considerations, I consider every discussion as to the causation of cancer by a bacterium as useless; but, for a total clearing up of the matter, it would still be desirable to investigate what sort of a bacterium the one described by Scheurlen might be, and whether it is often to be found in cancer, naturally, as an accompaniment. Now, it is well known that it is very difficult to fix the identity of a bacterium. Both Koch and his pupils, Carl Frankel, Eisenberg, and others, still hesitate to declare the bacilli of chicken-cholera and the septicæmia of rabbits as identical, although they agree in every respect.

I once found the same bacterium which Scheurlen has described when I placed a piece of carcinoma directly upon a potato. After twenty-four hours at 39° (102. 2° Fahr.), a vigorous growth followed. Comparative investigations of this bacterium with Scheurlen's and that taken direct from the potato without inoculation with carcinoma, has led me to the result that the bacillus described by Scheurlen is to be designated as potato-bacillus. The spores of this bacillus are tolerably resisting. I have, for instance, left a potato in sublimate (1 to 1000) for two hours, then boiled it for two and a half hours in a steam apparatus, and still found the bacillus upon the potato.

I might here refer to an important work by Globig, in which he shows that many bacteria grow for the first time between 60° and 70° (140° and 158° Fahr.), and that the sterilization of blood serum is extraordinarily difficult. Hence it may be seen how easily error may slip in if a series of tubes are not free from germs.

Concerning the point "potato-bacillus," I must make one more remark. These bacilli may be designated, without being very exact as those "which grow easily upon slices of potato and are often observed as settlers upon them" (Flügge, Die Mikro-organismen). Hence the domain of this bacillus is tolerably large. Flügge specifies only four potato-bacilli. But there are many more, although they have not been sufficiently studied, separated, and, above all, named.

I have, as mentioned above, found one agreeing perfectly with Scheurlen's, and enumerate it among the potato-bacilli for the following reasons: In the first place, the morphological relations and the spore formation are exactly alike; then the bacillus is movable; it liquifies gelatine and forms a white skin upon it; then it shows, for the most part, slight, wavy, wrinkled, mesentery-like growths; finally, it is not pathogenic. Every potato-bacillus, *par excellence* (the *B. mesent. vulgar*, Flügge), occurring in earth, dust, decomposing fluids, fæces, etc., possesses all these peculiarities, but, examined carefully, it is not quite identical with Scheurlen's.

The description of the universally distributed *B. mesent. fuscus* (Flügge) fits this much better, only this grows dirty-brown upon the potato, while Scheurlen's grows more reddish, rusty-colored, although this red, on many potatoes, passes into red-brown and brownish, as I have convinced myself.

In case the Schizomycete which has engaged our attention, should still have no name—it has often been seen before—then, perhaps, the designation *B. mesentericus robiginosus* (rustcolored) would apply. But in no case would the name cancer-bacillus, be justified, not even pseudo cancer-bacillus; and for this reason I have given the whole account of the potato-bacillus.

The results of my investigations so far as they had in view the peculiar irritant of cancer, have turned out entirely negative; also, according to the theoretical considerations stated above, it is not to be supposed

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that this great aim—the discovery of the etiology of cancer—will be attained in a short time. On the contrary, it may here be emphasized, in conclusion, that first of all, the foundation must be laid for an earnest, intelligent, *bacteriological* labor for the etiology of cancer, *i. e.*, the inoculability of the same. Without this foundation, the discovery of a bacterium through culture seems to me not only difficult but useless.

We must not forget that the mechanism of the etiology of carcinoma is in any case very complicated, and that we shall determine this bacillus only after accomplishing successful inoculation with pieces of cancer, and by new methods of cultivation which shall agree with the physiological conditions of the hypothetical micro-organism, or, generally expressed, shall fit in with this mechanism.

THE PRESENCE OF BACILLI IN SYPHILIS.

[Abstracted and Translated from the German by Dr. Elbert Wing.]

In an Inaugural Dissertation presented at the University of Berlin, Dr. John A. Fordyce, of Chicago, in addition to a review of the literature of the subject, reported some original work of his own. The examinations, made at the clinic for skin diseases of Dr. Lassar, of Berlin, were reported as follows:

Case I.—Moist papule of the lip. Infection of two months' standing. Treatment, four bichloride injections. Examinations of cover-glass preparations according to Lustgarten's method were negative. When the preparations were not completely decolorized, various cocci, and short, thick baccilli, such as are present in the normal secretions of the mouth, were found.

Case II.—Late syphilitic ulcer of the scrotum. History was negative as to syphilis. Cover-glass preparations stained according to Giacomi with anilin-oil fuchsin, decolorized with chloride of iron, gave diplococci in groups of three and five, also single ones, double the size of gonococci, which they otherwise resemble. Negative result with Lustgarten's method.

Case III.—Broad condyloma of the vulva. Inguinal glands enlarged. No treatment. Examinations with Giacomi's method gave bacilli which morphologically correspond with those of Lustgarten, and others half as long and as thick again. Lustgarten's method showed the characteristic slender bacilli, but not in such great numbers as that of Giacomi.

Case IV.—Papillo-serpiginous syphilide of the arm. Secretion obtained by abrasion of the surface. Results were negative with the method of Giacomi, and also with that of Lustgarten.

Case V.—Diagnosis, methods, and results the same as in case IV.

Case VI.—Mucous plaque of the right tonsil, stained with Giacomi's method gave numerous cocci, and short, thick bacilli. Lustgarten's method gave negative results.

Case VII.—Broad condyloma of the vulva. Inguinal glands were enlarged. Treatment was continued one week. The secretion was stained according to Doutrelepont's method, double staining of saffranin. The bacilli corresponded to the syphilis-bacillus, and also the short, thick ones described in Case VI.

Case IX.—Syphilitic pimphigus in a child. Double saffranin staining, according to the method of Doutrelepont and Schütz, gave cocci, single, and in groups of two, three, and four; also diplococci resembling gonococci, but larger, and always alone.

Case X.—Ulcer on the perineum, one month old. Diagnosis was uncertain, but three years prior the patient had an ulcer on the penis, skin eruption, alopecia, etc. The secretion was stained by the methods of Doutrelepont and Schütz. In every field groups of ten to twenty of Lustgarten's bacilli, of crossed and curved forms, as if button-like swellings were found; also cocci, single and in twos and fours, like streptococci, and short, thick bacilli. Both the 1 to 16 acid decolorizing solution of

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Doutrelepont and Schütz, and also a stronger, 1 to 8, were repeatedly used without any change in number or variety of forms of the bacilli observed.

CASE XI.—Broad condyloma from the anus of a child. Every field was full of cocci in groups and chains, as well as the Lustgarten bacilli, and the short and thick ones mentioned before.

CASE XII.—Secretion from a mucous plaque of the tonsil. The method of Doutrelepont showed cocci in great numbers, also bacilli resembling those of Lustgarten—long, thin, crossed, and curved. The cocci were in groups of two to four and in chains.

CASE XIII.—Broad condyloma from between the vulva and the inner surface of the thigh. The method of Lustgarten gave an exquisite picture of the syphilis bacilli. Every field contained one or more groups, and every group fifteen to twenty bacilli, which lay partly parallel, partly crossed, and all possessing the characteristics which Lustgarten has described. Doutrelepont's method showed the same bacilli, with others, and also cocci. Staining with Ziehl's solution and decolorizing with 33⅓ per cent. hydrochloric acid, double staining with methyl-blue showed the bacilli, but in smaller number.

CASE XIV.—Broad condyloma of the vulva. Roseola syphilitica. There was no treatment. Lustgarten's method of staining the secretion gave a result similar to Case XIII. Doutrelepont staining showed, in addition to the syphilitic bacilli, the other bacilli and cocci in great numbers.

CASE XV.—Mucous plaque of the lip. Lustgarten staining of the secretion gave negative results.

CASE XVI.—Broad condyloma of the vulva. Enlargement of the inguinal glands; roseola syphilitica. There was no treatment. Doutrelepont staining of the secretion shows syphilitic bacilli in straight and curved forms, with and without the button-like swelling, lying partly singly and partly in groups. Also numerous cocci and various forms of bacilli. Lustgarten's method shows only the bacilli of syphilis. Giacomi's method shows diplococci and streptococci, which resemble gonococci in size and form, but which are not confined in pus-corpuscles.

CASE XVII.—Secretion was obtained by abrasion from a small syphilitic papule or the skin. The Doutrelepont and Lustgarten methods gave negative results. He says: "At this time my attention was called by Dr. Lassar, to a work of Kühne in Wiesbaden, entitled, 'Concerning a universal procedure for demonstrating the schizomycytes in animal tissues,' in which he claims that by the use of two dye-stuffs —crystal-violet and methyl-blue—he can stain a greater number of various schizomycytes in the tissues than by any other means. The method is as follows. Into a dish containing a 1 per cent. aqueous solution of carbonate of ammonium filter a concentrated aqueous solution of crystal-violet until a drop placed upon blotting paper makes an intense, dark-violet speck. Place the dehydrated sections in this fluid for five or ten minutes—if tubercle bacilli are suspected, for one hour—then wash in water and place for one or two minutes in the usual solution of iodide of potassium (Iodine, 1; iodide of potassium, 2; distilled water, 300—Ed.), wash again in water and place in concentrated alcoholic solution of fluoresceine until they are nearly decolorized. The balance of the staining material is then taken out in two dishes of absolute alcohol. Oil of cloves may be used to test the decolorizing. When placed in this oil, if the sections show no more violet clouds the oil is removed with turpentine or thyme, and they are placed in xylol."

CASE XVIII.—Broad condyloma between the vulva and thigh. The secretion, stained by Giacomi's method, shows large numbers of syphilitic bacilli. With a Zeiss achromatic objective of 2 mm. focus and ocular No. 8, parts of the bacilli showed unstained, the swelling on the ends being more intensely stained.

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In addition, diplococci, resembling morphologically gonococci, were present in groups of ten to thirty, inclosed in pus-corpuscles. These were very numerous and presented the appearance of stained gonorrhœal pus. Besides these there were other bacilli and cocci. Staining the secretion with Kühne's method gave a similar result, the diplococci taking an intense black-blue color.

In six other cases the secretion from hard chancres of the prepuce was examined by both the method of Lustgarten and by that of Kühne. The former showed the bacilli of syphilis, the latter cocci, single and in chains and groups. The cover-glass preparations in the Kühne method were left in the solution from twenty to sixty minutes. The secretion from three hard chancres of the prepuce was examined by Giacomi's method and showed the bacilli.

The examination of the secretion of a hard chancre of the lip, by both Lustgarten's and Kühne's method, was negative.

In two cases of macular syphilitic eruption, the examination of the secretion of papules of the skin gave negative results.

In two cases of late serpiginous ulceration of the soft palate, the secretion was stained in the crystal-violet solution for twelve hours without showing the characteristic bacilli. There were, however, numerous zoöglear masses, styphylococci, streptococci, and bacilli of various size and form. Lustgarten's method decolorized these masses much better but not entirely.

The examination of a mucous plaque of the tonsil gave a similar result.

The examination, by Lustgarten's method, of an ulcerating gumma of the nose, gave a negative result.

These examinations of the syphilitic secretion gave positive results in fifteen cases, and, with one doubtful exception, these were limited to secretions from the genitals or their immediate vicinity. "I can confirm the observation of Matterstock, viz., that the bacilli are more numerous in the secretion from places where the body temperature is constantly maintained, and in which the secretions stagnate and partly decompose. In cases where the hard chancre lies free, and in which the secretions are slight, the bacilli are far less numerous. In cases of hard chancres hidden between the folds of the prepuce, and in those in which the secretion came from condylomata, the micro-oganisms were exceedingly numerous."

A comparison of the several methods of staining shows that while all of them stain the characteristic bacilli, the decolorizing method of Lustgarten most successfully decolorizes the cocci and all other bacilli.

The bacilli of Lustgarten are found in very great numbers both in the smegma preputialis and in the corresponding secretion of the female genitals in non-syphilitic persons. And there is no manifest difference in the power of resistance against alcohol between these bacilli and those found in the syphilitic secretions.

In some cases they withstood the action of alcohol for two minutes after they were decolorized in permanganate of potassium solution and sulphuric acid, but in others not so long.

The method of Doutrelepont (48 hours in a 1 per cent. methyl-violet solution) stains the bacilli of syphilis, as well as others of different shape and size, and also cocci, streptococci, and zoöglear masses. The appearance resembles the one obtained in staining the secretion of broad condylomata by the same method.

In regard to the differential diagnosis between the bacilli of smegma, or syphilis, and those of tuberculosis, the latter, beyond question, have a much greater power of resistance against the action of acids.

The staining by Ziehl's solution, and decolorizing in 33 per cent. hydrochloric acid, frequently gives a negative result with smegma and condyloma secretion. In other cases bacilli appear but sparingly, and disappear upon longer action of the acid.

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The finding of bacilli in the mucous plaques of the mouth is to be taken with caution, since there are so many varieties of bacilli in the normal secretion of the mouth, and an error may arise because the decolorizing methods do not suffice to differentiate, with absolute certainty, the normal from the pathological.

In the tissue of five freshly excised hard chancres of the prepuce, stained according to both Lustgarten's and Doutrelepont's methods, bacilli were found in two cases. Of thirty sections of each chancre, six in all contained bacilli. Two sections contained twelve bacilli, singly and in groups of from two to four; in one case crossed, in another parallel. They were situated in cells, and of the size and shape described by Lustgarten, and were located as a rule at the border between sound and infiltrated tissue. In some sections bacilli were found upon the surface of the ulceration which were not morphologically distinguishable, except that they did not lie in the cells.

The very great infrequency of the bacilli renders the search for them exceedingly painstaking, and when they are once found it is no easy matter to again bring them into the field of vision. Indeed, it is possible only by the use of a mechanical stage and a Maltwood finder, or its substitute.

In three hard chancres examined, most careful search failed to reveal any trace of micro-organisms. However, with sections from two of these chancres, which lay in the crystal-violet solution twelve hours, he had better results. In every two or three of these sections bacilli appeared which were in every way identical with Lustgarten's bacilli. They were stained an intense blue-black, were often in the cells, and lay at the border of the infiltrated tissue. In one polyonal-formed cell two bacilli were crossed, in another two lay parallel, and in still another they were disposed singly.

The largest number found in any one section was twelve. In addition, groups of cocci were found both upon the surface of the chancre and in the infiltrated tissue. Every section contained one or two groups of cocci of from fifteen to twenty, whose size and shape indicated the cocci of erysipelas.

The most satisfactory results were obtained from a recently excised condyloma of the labia majora, stained according to the method of Kühne. Every section contained groups of cocci, both upon the surface and in the infiltrated tissue, which resemble those mentioned above. Every second section contained bacilli of syphilis, singly and grouped. In one section he was so fortunate as to find one collection of twenty such bacilli in the subcutaneous cell-infiltration; they lay crossed, parallel, and in every possible angle to one another; they were 3.5 to 7 μ., and occasionally joined themselves in strings of three or four. Their form presented the greatest variety, straight rods and S forms; many exhibited the button-like swelling at the end, and excrescences at the middle of the bacilli were seen, as if a spore were separating from them. He also found similar appearances in bacilli from the secretion of chancres, stained by the same method. Near these groups of bacilli lay cocci, at times in groups of fifteen or twenty, and at times in chains. One of the latter suggested the clumps of nucleoli (Haufen von Körnchen) which Doutrelepont and Matterstock have described as decaying (zerfallene) bacilli. In the cell-infiltration there were many of the mast-cells of Ehrlich, with bright-blue colored granules on their edges, which lay in double rows, somewhat like an inverted V. These occur at moderate intervals, and bear no relation to cell-granulation, but look as if they were bacilli, as they represent the description of Birsch-Hirschfeld. He had himself seen that they do not belong exclusively to syphilitic infiltration, since he had met them also in simple condylomata.

In fifteen sections from simple condylomata (spitzen condylomen) stained with

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crystal-violet, cocci alone appeared, and they were mostly upon the surface.

The investigation of a hard chancre of the lip by Lustgarten's method gave a negative result.

The small number of his investigations does not permit a conclusion to be drawn as to the relative value of the methods of staining sections of tissue which were employed. However, it seems to him that the method with crystal-violet stains a larger number of the bacilli than either that of Lustgarten or Doutrelepont. It can not be said what the shortest time is in which, by that method, the bacilli can be stained. With cover-glass preparations twenty minutes suffices. Attempts to find bacilli in sections which have been stained for less than twelve hours were not made. It is probable that a shorter time would suffice if a warming-oven were employed. The decolorizing method of Kühne was the only one employed.

It is clear that a conclusion in regard to the diagnostic value of the bacilli when found in cover-glass preparations can not be drawn, since they appear in the normal secretions of the male and female genital organs.

The bacilli found in the syphilitic tissue, however, stand related to the pathological process, but what the nature of the relation is can only be determined by further investigation, culture-trials, and inoculation experiments.

REPORT OF THE ROTUNDA HOSPITAL.

Obstetricians all over the world are always eager to read any report from the Rotunda Hospital, Dublin, and that for the three years ending November, 1886, has just been published in the *Transactions of the Academy of Medicine in Ireland*, Vol. V, 1887, having been presented by Mr. JOHN LILLY LANE, Ex-Assistant Physician to the Obstetric Section of the Academy last June.

For the past three years the corrosive-sublimate solution has been more freely used both for the hands and for intra-uterine injections, and has almost taken tne place of carbolic-acid solution, except in cases of considerable hæmorrhage, suspected renal mischief, or great corpulence; the reason of the continued use of the carbolic-acid solution in these cases being that as absorption is so much greater there is danger of mercurial poisoning manifesting itself by diarrhœa, tenesmus, bloody stools, etc., while with the use of the 1.80 solution of carbolic acid no bad symptoms have been noticed. Iodoform pessaries are not used so frequently now, and only when the lochial discharge becomes fœtid, and continues so after the first washing out of the uterus.

During the three years there were 3,414 patients attended in the hospital, including twelve cases of threatened abortion. These twelve cases are deducted in the following percentages. There were forty-three deaths from various causes, making a mortality of 1.25, or one patient in 79.39. One death occurred from supposed acute yellow atrophy of the liver, about a week after the patient left the hospital, which she did contrary to orders. One death occurred from septicæmia the day after the patient went home, this also contrary to orders. Two patients died over five weeks, one over four weeks, and three over three weeks after delivery; seven deaths were due to hæmorrhage, two to acute yellow atrophy of the liver, three to convulsions, one to exhaustion from discharge from encysted peritonitis, one to congestion of the lungs, three to phthisis, one to tuberculosis of lungs and brain, one to acute bronchitis, three to pleuro-pneumonia, one to pneumonia and Bright's, one to syncope, one to excessive vomiting with hæmatemesis, and eighteen to septicæmia. These eighteen from septic infection give a mortality of .52 per cent., or one in 189.6; but a better criterion of the state of the hospital is the number of patients that had absolutely normal temper-

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atures and pulses during the puerperal period. Taking the maximum physiological temperature as 100.4° (38°C.), the percentages of cases that did not exceed this maximum at any time during the puerperal state is as follows for the three years: In 1884, 74.66; in 1885, 83.54; in 1886, 85.75.

Not only has there been a steady increase in the number of patients each year, but the general health of the hospital has improved, as may be seen by the following numbers showing the number of abnormal temperatures for each of the three years.

	1883-84	1884-85	1885-86	Total
Number of patients in hospitals each year	1,109	1,113	1,193	3,414
Temperature above 100.4°, not above 102.2° Fahr.	176	94	93	363
Temperature above 102.2°, not above 104° Fahr.	86	68	58	212
Temperature above 104°, not above 105.8° Fahr.	19	21	17	57
Temperature above 105.8°, not above 107.6° Fahr.	..	..	2	2
Total abnormal temperature each year	281	183	170	634

Forceps Cases.—There were 203 forceps cases, a percentage of 5.96, or one in 16.75. Of these, six died, but only two from septicæmia, one having a fœtid discharge when admitted. In the other case the child was dead and œdematous when delivered; placenta adherent, removed, when it, with the discharge, was found to have a very fœtid smell; slight post-partum hæmorrhage. The six cases gave a mortality of 2.95 per cent., or one in 33.83 in forceps cases. The forceps are not applied in the hospital unless there are positive indications to warrant their application either on the part of the mother or the child. Those on the part of the child that are considered as indicating danger to life are a very quick or a very slow fœtal heart, or the escape of meconium *per vaginam* when the head presents. Dr. Neville's axis-traction forceps are those most frequently used. Mr. Lane thinks it has many advantages over the axis-traction forceps with rods, being more portable, more easily applied, distends the perineum less, can be used, if desired, as a simple forceps, can be more easily cleansed, and there is no danger of injuring the vagina by the mucous membrane being caught between the blades and the rod.

Treatment of Retained Placenta, Especially when Placenta is adherent.—Mr. Lane divides the subject into two classes: 1. Cases of simple retained placenta. 2. Cases of retained adherent placenta. The first class he divides into two heads: Cases without irregular contraction, and cases of irregular contraction. The treatment of retained placenta without irregular contraction is very simple, provided the bladder be empty; but simple as it is Mr. Lane thinks that the hand is often passed unnecessarily into the uterus to remove it. It is often said that the hand should exert steady pressure on the fundus during the third stage of labor; but if this be not properly done, instead of doing good it will actually do harm, for, as the fundus is occasionally deflected to either side, usually the left, when pressure is made in the mesial line in the hope of expressing the placenta, the later flexion is still more increased thereby, folding the uterus as it were on itself, and pressing the placenta toward the fundus rather than from it through the os. He thinks that the present practice in the hospital, moving the fingers lightly over the uterus, is preferable, and much less tiresome to the hands of the operator. Of simple retained placenta he has seen some cases in which the placenta was immediately expelled when the fundus was raised out of an abnormal position and without pressure.

Cases of irregular or hour-glass contraction are sometimes met with in the third stage, and are said to occasionally occur naturally, but I believe it is much more frequently produced artificially, by the hand being placed during this stage not on the fundus, but somewhat lower down—possibly at the ring of Bandl—and pressure and friction there continually used, exciting and causing the circular fibres situated in that particular part of the uterus to contract

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tonically. If this contraction-ring be below the edge of the placenta, it will prevent it from getting down into the lower segment of the uterus, or it may be gripped by the ring, in either case, perhaps, necessitating the introduction of the hand for its removal. Cases of retained placenta, due to irregular contraction, may be sometimes overcome, Mr. Lane thinks, by removing the hand from the uterus, and douching it out well, preferably with hot antiseptic solution, but with plain water if the hot solution be not at hand.

When the placenta is adherent, Mr. Lane believes the proper treatment is to pass the hand or the fingers into the uterus and detach it, but he considers that if the operator's hands be not perfectly aseptic, this is the most dangerous operation in midwifery, except Cæsarean section. It is not always possible to keep the hand within the membranes during the operation, owing to the friable nature of the placenta, necessitating the removal of small pieces at a time. In the Rotunda an anæsthethic, usually chloroform, is almost always given, in order that the hand may be passed a second time when there is any doubt whether all the placental tissue has been removed. In the three years of the report 37 cases of adherent placenta were removed, a percentage of 1.08, or one in 91.95. Of these 37 patients six died, a mortality of 16.2. But of the six deaths only two were due to septicæmia.

Laceration of Perineum.—When the perineum is lacerated over .75 inch the practice is, having douched out the vagina with antiseptic solution, to suture immediately, either with silk or catgut (continuous suture for the latter). The stitches are inserted deeply so as to bring the whole of the torn surface into apposition, and the results have been very satisfactory. If the torn surfaces be not accurately apposited the lochia would probably collect between the edges of the wound, causing them to become unhealthy, especially if the discharge be fœtid, and this condition, when once produced, is likely to go deeper, possibly invading the whole depth of the perineum, causing the stitches to slough out, and the wound to gape wide open.

Retention of Membranes.—In cases of retention of a portion of the membranes the practice in the Rotunda is to make gentle traction, having as a rule tied a ligature on it as close to the vulva as possible, thus gaining a firm hold so that it can be twisted, thus reducing the likelihood of its breaking. "Should the membranes break well inside the vulva, the best course is to allow them to remain there, but the douche may be used, which may possibly cause the piece to come away, and will in any event be beneficial if an antiseptic solution be used. This course is far preferable to introducing the fingers or the hand, whereby air is introduced,—a fertile source of fœtid discharge. As to hæmorrhage I do not consider it is ever traceable to the retained membrane, but to the imperfect contraction, which is the very cause of the membrane not being expelled."

Prophylactic antiseptic treatment of ophthalmia neonatorum is never adopted until the disease is actually manifest. Both eyes, even though only one shows symptoms, are then treated with nitrate of silver solution, eight grains to one ounce, pieces of lint dipped in cold water being kept constantly on the affected eye or eyes. When only one eye is affected it is well to have the other bandaged up so as to prevent contamination. The number of cases for the three years was .99 per cent., say one in 100, which is very low.

Infantile asphyxia is treated by Schultze's plan. First the finger is passed into the child's mouth, and the mucus removed as far as possible. The child is then placed on its back, and the operator's hands are put under its back so that they lie at each side of the spine, the fingers in the direction of the child's lower extremities, and its head resting, or partially resting, between the ulnar sides of the operator's hands. The index fingers are then passed underneath the axillæ from behind for-

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wards, the remaining fingers continuing to support the back. The operator now stands up, allowing the child to hang with its feet downwards. The child is now swung upwards so as to cause the legs to fall over the body, and the thorax to be compressed by the thumbs, and then after an interval the legs are swung back to the original position, so that the child will be, as it were, in the vertical or standing position, whence it is again hoisted to the second position. This movement is repeated eight or ten times, and then the child is placed in a warm bath for a few minutes, during which time any mucus that has collected in the larynx is removed by aspiration through a catheter. Care should be taken not to jerk the child during the movements, lest some of the viscera be injured.

The Incubator, Mr. Lane is satisfied, has been the means of saving the lives of many infants in the hospital, since, notwithstanding the efforts of the mothers to keep them warm, the extremities of the children sometimes become œdematous and frequently assume an almost erysipelatous appearance, feeling quite cold, and accompanied with an inability to draw the breast, and marked fall of temperature; but when these children are placed in the incubator an improvement is visible in twenty-four hours, and generally after another twenty-four hours the child seems completely restored. Such children always get wine-whey.

ILLINOIS STATE BOARD OF HEALTH.

The regular quarterly meeting of the Illinois State Board of Health was held in this city April 19 and 20.

The Secretary presented his quarterly report, in which he says that notwithstanding the exceptional severity and sudden and marked changes of the meteorological conditions which occurred during the quarter which ended March 31, 1888, there has been no serious increase of the mortality rate, as a whole, nor have the diseases which assume an epidemic form prevailed to an unusual extent. The mean temperature for the quarter has been from five to eight degrees lower throughout the State than for any corresponding period during the last 15 or 20 years—the figures varying between these extremes in various localities.

* * * * * * *

This country cannot be regarded as safe from the menace of cholera so long as, on the one hand, and under existing conditions of maritime quarantine, we continue to receive large numbers of immigrants with their household effects from the recently cholera-infected districts of Europe; and, on the other, so long as the disease continues its ravages on the South American continent.

It is, at least, the part of prudence not to relax vigilance or effort so long as these conditions exist.

Considerable preliminary work has been done toward investigation of the water supplies of the State, in connection with the sanitary survey of the various localities to secure proper collection of the samples for the chemical and biological examinations, and for collecting and utilizing data concerning borings, shafts, and wells sunk in various parts of the State.

WEAR AND TEAR OF THE MEDICAL PROFESSION.

Since the close of 1887, I have been enabled to partly tabulate and analyze a mass of material accumulated during the past ten years bearing on the wear and tear of the medical profession of Illinois.

Even prior to the beginning of that period, I had become impressed in a general way with a conviction that this wear and tear was underestimated; that the active practice of medicine was not so conducive to longevity as is popularly supposed, nor as writers on such subjects—basing their conclusions on the data obtained from medical biographies, cyclopædias, etc.—had been led to believe.

The source of error in this latter instance

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is obvious. The subjects of biographies, cyclopædia articles, memoirs, etc., are necessarily the men who have attained eminence, or at least prominence; and, in the nature of the case, prominence in the medical profession is largely the fruit of long service and length of days. In other words, the exceptional class which, partly by very reason of long life, has attracted most attention has been hitherto taken as an indication of the longevity of the profession as a whole. Thus we find one writer (Dr. Geo. M. Beard) citing the deaths of 490 Massachusetts physicians whose average age at death was 57 years, and 55 out of every 100 of whom attained to 70 years. The average age of the subjects of Gross' Medical Biography was 59 years. although it is ingenuously added that these "included several who died before their prime" Similarly Thacher's Medical Biography makes mention of 145 physicians, and the fact that their average age at death was 62.8 years is quoted—as are the other instances—as proof of the longevity of medical men.

Still another fact should be taken into consideration in the case of the class who figure in biographies. It is composed very largely of city physicians, and of the men who, in the smaller towns, are in a position to select their practice and adjust their labors with some regard to regular hours of sleep, meals, and relaxation. Comfortably housed at home, properly protected from the weather when making visits, free from the harassing cares of the *res angusti domi*, and beyond the torturing anxiety which too often besets the struggle for practice—the conditions of life in these cases are undoubtedly favorable to longevity.

But these are the fortunate few who bear no more numerical relation to the rank and file of the profession than the general officers do to the rank and file of an army.

Compared with these biographical subjects, upon whose length of honorable and successful years is predicated the assertion that the wear and tear of the profession does not prevent its members from attaining a high average longevity—compared with these I have, as the result of an extensive correspondence and systematic record, obtained data which show that the average age at death—in Illinois, at least—is not much over 52 years, and that only about 11, instead of 35, in every 100 attain the scriptural limit of three score-years and ten.

In older communities it is entirely probable that this rate may be exceeded. In Massachusetts, for example, the average age at death of 1,166 physicians, occurring during a period of nearly thirty-two years, is given as about 55 years; but the Illinois statistics—collected with painstaking care and dealing with more than double the number living annually—do not furnish any such favorable result. To a very great extent the discrepancy between Illinois and Massachusetts is due, no doubt, to the different conditions which obtain in the two communities—the one a comparatively newly-settled State, with a population containing less than the normal proportion of the middle-aged and beyond; the other one of the oldest settled commonwealths, with an excess of ages beyond the middle life, and with what Dr. Holmes calls the "adjustable conditions of living" so perfected as to materially conduce to the prolongation of life. But in addition to this difference there mnst also be taken into consideration the radical difference in the modes of collecting the data upon which the average age at death has been computed.

For Illinois these data have been obtained through official relations with an aggregate of some 14,000 physicians during a period of over ten years. The personnel may be taken as fairly representative of the profession generally, since it is composed of about one-sixth of physicians of a large city, Chicago, and the remainder of physicians of smaller cities and towns. During these ten years there has been an

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average of 6,000 living. per annum, and the aggregate deaths have been about 800, or an annual death rate of 13.3 per thousand. These round numbers, and the period covered, are cited to show that the data are extensive enough to insure substantially trustworthy results in the tabulations and deductions.

Of the total number of deaths—800—the age at death and the cause of death have been obtained in 686 cases, and from these data, from information contained in the official registers of the State Board of Health, from the statistics of the United States census and the mortality reports of Dr. John S. Billings, the following tables have been constructed.

Table No. 1 shows the annual number of Illinois physicians living at given ages; the annual number of all Illinois males living at the same ages; and the annual deaths for each class at the same ages. The ages are grouped in decades from 30 to 80: under 30 they are comprised in one group, embracing the ages from 24 to 30; and all over 80 form one group. The limits of the first group—24 to 30—are fixed by the fact that no deaths are reported under 24 years of age.

Table No. 2 shows the yearly death-rate per 1,000 among Illinois physicians at the ages specified; among the whole male population of Illinois, embracing all occupations, physicians included, and among both sexes of the whole population of the United States.

TABLE I.—*Average number of physicians in Illinois living annually at grouped ages, and of all males in Illinois at same ages; Average No. of deaths annually of each class*, 1878 *to* 1887, *inclusive.*

Ages.	Living Annually.		Deaths Annually.	
	Physicians.	All Males.	Physicians.	All Males.
24–30	1,409	156,668	9	1,088
30–40	1,740	201,889	13	1,536
40–50	1,304	144,997	15	1,501
50–60	877	97,536	17	1,626
60–70	441	49,006	15	1,570
70–80	127	19,717	9	1,269
Over 80	42	4,542	2	572
Totals	6,000	674,348	80	9,197

TABLE II.—*Yearly death-rates per* 1,000 *of physicians in Illinois, of all males in Illinois, and of both sexes in the United States—at grouped ages.*

Ages.	Yearly Death-Rate per 1,000.		
	Physicians.	All Males.	Both Sexes.
24–30	6.4	6.6	9.7
30–40	7.4	7.6	11.9
40–50	11.5	10.3	13.9
50–60	19.5	16.5	18.1
60–70	31.1	32.0	23.8
70–80	53.0	64.4	46.9
Over 80	476.1	126.0	113.3

An examination of the above tables shows that while the death-rate of physicians in Illinois for the first few years after entering upon the practice of medicine is lower than that of all males in Illinois, and greatly less than that of the whole population of the country at large, it increases beyond that of the former class during the decade from 40 to 50, and is greater than that of the latter class in the next decade.

The obvious inference is that physicians, on entering practice form a class of selected lives, since they have an advantage of nearly 3 per cent. as compared with all males at the same ages—that is, from 24 to 40; and of over 50 per cent. as compared with the total population, both sexes, at the same ages, this latter great disparity being, no doubt, largely due to the casualties among women during the child-bearing period.

As the wear and tear of practice begins to tell this advantage is soon lost, so that during the period from 30 to 70 the death rate of physicians is 8 per cent. greater than that of all males, and during the period from 40 to 70 it is more than 11 per cent. greater than that of both sexes.

An examination of the causes of death in the following table reveals the result of the exposure, irregular hours, broken rest, and mental anxiety, which are the lot of the average practitioner :

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TABLE III.—*Principal causes of deaths of physicians in Illinois during the ten years ended December 31, 1887*

CAUSES.	Number.	Per Cent. of Total.
1. Phthisis	122	15.8
2. Diseases of the Lungs and Respiratory Apparatus	115	14.4
3. Diseases of the Brain and Nervous System	105	13.1
4. Zymotic Diseases	82	10.0
5. Misadventure and Violence	75	9.4
6. Diseases of the Heart and Blood-vessels	67	8.4
7. Diseases of the Stomach and Digestive Tract	48	6.0
8. Bright's Disease	31	3.5
9. Diseases of the Liver and Appendages	26	3.2
10. Enteric Fever	24	3.0

Of the grouped causes of death above given it will be seen that consumption, diseases of the respiratory organs (including 91 from pneumonia), and Bright's disease caused 268 deaths, or more than one-fourth of the total. If to these be added a share of the deaths from diseases of the heart—the sequelæ of rheumatism—a fair estimate may be made of the effect of exposure to the vicissitudes of weather upon the wear and tear of medical life. As a result of mental strain and anxiety, of insufficient, irregular, and interrupted sleep, and similar causes is the total of deaths from diseases of the brain and nervous system, embracing forty-three from various forms of paralysis. In the group of zymotic diseases (enteric fever given separately) there were five deaths from diphtheria, one each from small-pox and yellow-fever, and eight from traumatic infection (septicæmia, etc.), all contracted from attendance upon patients.

Less creditable to the morale of the profession are the eighteen deaths from overdoses of opiates and narcotics, the seven admitted suicides, and the deaths from alcoholism, direct and indirect—twelve of the former and at least eight of the latter. There is this to be said, however, in this connection, that the proportion of mortality from these causes is steadily diminishing, and my observation shows that this diminution is largely the result of an amelioration of the conditions, especially of country practice, due to better roads and methods of locomotion, increased comfort in living, and less physical strain upon the practitioner. Ten years ago the resort to stimulants upon exposure to the weather and under the harsher conditions of practice which then obtained was much more common than it is to-day. And this is also true of the use of opiates and hypnotics. The practitioner—familiar with their power to temporarily stimulate to further endurance, or to procure sleep when nervous and exhausted—had formerly greater temptation to resort to the use of these agents, always ready to hand.

While there is a total of twelve deaths reported during the ten years as due to "alcoholism" direct, there has been only one in the last four years; and of the eighteen deaths from "over-doses of opiates and hypnotics" in the entire period, there has been only one in the last three years. In addition to amelioration in the conditions of practice as a cause of this result, it is only fair to take into consideration, also, the improved moral status of the profession in this State.

Although the figures and deductions here submitted are believed to be substantially accurate—being, if anything, understatements—they are offered only as a provisional contribution to the study of the subject, which is by no means exhausted. The numbers under observation and the period covered are greater than anything heretofore utilized for this purpose in this country, so far as I am aware, and have cost much labor, which may be materially lightened in the future by very little effort on the part of physicians in making returns of death certificates, and by county clerks in forwarding them to the office of the board. It is hoped that the interest which this presentation of the subject may reasonably be expected to arouse will lead to this result.

MEDICAL-PRACTICE ACT.

There were issued during the quarter 138 certificates authorizing the practice of

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medicine in the State—126 of which were to graduates upon diplomas from medical colleges in good standing; eleven to non-graduates upon proof of ten or more years of practice in the State prior to July 1, 1887, and one upon satisfactory examination; six duplicates were also issued upon proof of the destruction of the originals. Certificates were issued to twenty-six midwives—fifteen upon diplomas or licenses, and eleven upon examination.

Of the 149 applications for medical-practice certificates, eleven were refused to applicants who were unable to comply with the provisions of the law and the requirements of the board based thereon. There were also eight applicants who presented diplomas from colleges which do not fully comply with the prescribed standard of study and instruction. Certificates were issued to these only after passing examinations in the neglected branches, or furnishing evidence of the necessary proficiency in the omitted qualifications. Two applications have been received for itinerant license, one from Michigan and one from Indiana. In accordance with the action of the board heretofore, they were refused. Since July 1, 1887, $9,700 have been refused by the board for licenses of this character.

MEDICAL EDUCATION.

More interest is now evinced in the subject of medical education than ever before. This is true of the country generally, and during the quarter, communications have been received from both extremes of the continent showing the progress being made. The Secretary of the Maryland State Board of Health announces the enactment by the Maryland legislature of a medical-practice act similar to that of Illinois. The Secretary of the California State Board of Medical Examiners gives notice that after the 1st of April, 1891, no diploma issued thereafter will be recognized as the basis of a certificate entitling to practice, unless the college shall have exacted three full years of study, and attendance upon not less than three full regular courses of lectures, delivered during three separate years, as conditions of graduation. The St. Louis Medical College, whose course of instruction heretofore has been thorough, has decided to lengthen its lecture term to six months. The Medical Department of the University of Wooster, at Cleveland, Ohio, and the Medical College of Ohio, at Cincinnati, will, at the next session, require attendance upon a three years' graded course of lectures.

IM MEMORIAM.

The Secretary was instructed to transmit a message of sympathy to the widow of Dr. Cornelius Rea Agnew, and to prepare an expression of the sentiments of the board upon the death of that distinguished physician, sanitarian, and medical teacher.

The secretary spoke of the cordial support and ready interest Dr. Agnew had always given to the efforts of the board for the elevation of the status of the medical profession and the promotion of practical sanitary measures.

ON THE TREATMENT OF PHTHISIS BY CREOSOTE.

[Translated and Abstracted by Dr. Lester Curtis.]

Two papers on this subject have recently appeared in the *Berliner Klinische Wochenschrift*, one by Dr. Brun, in No. 8, and one by Dr. Peter Kaatzer, in No. 11.

Dr. Brun has used the creosote during the last eight years in 1,700 cases of phthisis, some very bad, with remarkably good results. A sample case is as follows:

"Mr. S., chemist from S., came under my treatment July, 1886. He is thirty years of age. Originally he was a large strong man. He comes of a healthy family, and was well until November, 1885, when he became ill with a cough, expectoration, and the well-known phenomena of hectic. As a result his weight diminished

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some forty pounds. Patient appeared very much emaciated, was very anæmic, with sharply defined red spots on the cheeks pulse 120 to 130 per minute. Continued fever, morning 38.4° (101.12° Fahr.), evening, 39.5° to .7 (103.1° to .5 Fahr.); night sweats; loss of appetite; inclination to diarrhœa. In the sputum are masses of bacilli. A local cavity the size of the fist and firm infiltration of the whole left upper lobe; right, slight dullness above and limited crepitant râle in the upper part of the apex. The prognosis seemed gloomy, and more that something might be done, creosote was given, on account of the existing diarrhœa, in pill form with opium.

"Almost contrary to expectation the appearance changed; the diarrhœa disappeared, the digestion became normal, appetite appeared, the nutrition improved, and the respiratory symptoms disappeared. Then the stronger form of creosote wine was ordered. It was borne, and was used during the treatment here for two months. At the end of this time the weight of the body had increased about fifteen pounds. The fever had lost its continued character, the temperature was normal in the morning, at evening it was 38.2° to 38.5° (100.8° to 101.3° Fahr.). Expectoration and cough had remarkably lessened. In the sputum bacilli appeared only rarely, and the board-like dullness had considerably cleared up, the cavity decreased, the secretion within it diminished.

"Patient left Lippspringe with instructions to continue the use of the creosote wine during the winter, and in the spring return here. This occurred, and the reports received every month continued favorable. Some weeks after the return home the fever entirely disappeared without further assistance and the patient became so strong that he was able to resume his duties as chemist of a sugar manufactory.

"In June, 1887, he came back and exhibited a picture of health. The body-weight was greater than before the illness, cough and expectoration only in the morning, in a minimum degree, no dyspnœa, bacilli entirely gone. Signs of a cavity could no longer be detected within the boundary of contraction of the left apex. It was difficult to awake, in the vigorous man, the consciousness of the necessity of further precautions."

A second case is given of a patient from a tuberculous ancestry, who had for many years suffered from catarrh of the respiratory organs. After a pneumonia, gangrene occurred in the lungs, with the usual constitutional disturbances. The creosote was given, and was followed by restoration to a condition quite as good as that before his illness.

The maximum dose of creosote which Dr. Brun uses is from 0.4 to 0.45 in a day. He insists on the necessity of using that prepared from beech tar.* The improvement corresponds with the amount which the patient is able to take. The form which he prefers is creosote wine, his formula being "Creosote fagen 13.0, T. A. gentian 30, spirit. vin. rectif. 250, vin. Tokayens q. s. ad. colat. 1000. S.—One tablespoonful to be taken three times daily, diluted with water."

The medicine is usually well borne, the worst thing about it being the pungent, disagreeable taste. Patients, however, usually soon become accustomed to this and do not mind it.

He has also used the "Ruess-Sommerbrodt's" capsules of tolu balsam 0.2, and creosote 0.05, but does not like them so well on account of their liability to derange the stomach.

When there is tendency to diarrhœa he uses the creosote in pill form with opium, "Creosote fag. 2 to 2.5, op. 0.3 to 0.4: 50. S.—One pill to be taken every three hours." With this treatment the diarrhœa usually stops promptly. Then he begins with the creosote wine.

Along with this treatment he usually employs creosote inhalations. For this pur-

* It should be borne in mind that ordinary commercial creosote is only carbolic acid, probably impure, and is not fit for internal use.—L. C.

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pose he recommends Feldbausch's nasal inspirator. "This consists of two small tubes one and a half to two centimetres long, designed for each nostril. These are connected by a semi-circular middle piece. The interior contains filter paper upon which the creosote is dropped. While in use the tubes are placed entirely within the nasal canal so as to be scarcely perceptible to a second person. The irritation of the interior of the nasal cavity by the application is insignificant, and after several introductions is scarcely perceptible, so that the little apparatus may be used during any sort of occupation by day, and even throughout the night."

Dr. Kaatzer has treated somewhat more than a hundred and sixty cases with creosote. He considers that more than 10 per cent. of these have perfectly recovered. He has made repeated examinations of the sputum in each of these cases, at considerable intervals, without finding any bacilli or remains of elastic tissue.

"In 40 per cent. of my patients there occurs, during long treatment by creosote, if not recovery, still, such improvement that they are enabled to resume their occupations, which had been given up, and could work again with a feeling of renewed vigor. Among these is worth mentioning a bookkeeper. Along with bacillary lung phthisis, he suffered with bacillary otitis, on account of which a well-known authority was consulted. The patient mentioned came under my treatment in the summer of 1885. According to the account of the before-mentioned university teacher, no case of this affection that had come under his observation had lived more than a year. The unfavorable prognosis was not fulfilled. On the other hand, the number of bacilli in the sputum in the summer of 1887 was, by repeated investigation, very scanty—an average of one bacillus in several fields of the microscope. Patient had, besides, with the exception of a nine weeks' furlough, which he has spent every year in Bad Rehburg under my immediate supervision, fulfilled perfectly the trying duties of his occupation."

The formula used by Dr. Kaatzer is:

R.

Creosote puressimi e fag.....	2.0
Spts. vini rectif.....	30.0
Tr. gentian.....	
Ext. coffea ana.....	10.0
Aq. dest.....	100.0

S.—To be well shaken. A tablespoonful three times a day in half a cup of milk."

He is not sure but it would be better to take the same daily quantity in smaller doses from four to six times a day rather than the larger doses three times a day.

ALANINATE OF MERCURY; A NEW ANTISYPHILITIC.

Schmiedeberg's suggestion, in his *Compendium der Pharmacologie*, that combinations of mercuric oxide, with certain amidic acids of the fatty series (acetamidine, glycocollamine, as paragine) should act well in the treatment of syphillis, and the fact that these preparations have the advantage of being very soluble and easily absorbed, induced Dr. R. De Luca, assistant in the clinic of Professor Ferrari in the University of Catania, to make some experiments with mercuric alanine in the treatment of syphilis, and these he has now published. Preliminary experiments on animals (rabbits, Guinea-pigs, and dogs) showed that the drug was not very poisonous.

The alaninate of mercury used was prepared in the following manner: One part of alanine was dissolved in twenty parts of distilled water, which was then gradually raised to the boiling point; while the liquid was boiling it was poured over a small quantity of mercuric oxide (HgO) until it was all dissolved. Then the liquid was filtered and evaporated, and the residue crystalized, and a whitish substance, mercuric alanine, was obtained, which under the microscope showed the characteristic needle-shaped crystals grouped in crosses

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and tufts. When thus prepared alaninate of mercury is soluble in three volumes of cold distilled water; this aqueous solution is perfectly colorless, clear, is changed neither by exposure to the air nor to light, and will keep indefinitely. In dilute solution it will not coagulate albumen; in concentrated solution its coagulating action is limited to its causing a cloudiness of that part of the liquid with which it comes immediately in contact. In other respects it has the general properties of other salts of mercury.

On his patients De Luca used the drug in three different solutions of 4, 8, and 10 milligrammes, to 1 ccm. of distilled water, (gr. 1-16, 1-8, and 1-6, to 16 m.), both for internal use and for injections, subcutaneous or intermuscular. The drug was used by injection in twenty cases; nineteen cured and one improved. The daily quantity used on each patient (all adults) was from five to ten milligrammes. The average number of days of treatment for each patient was 37.05; average number of injections to each patient, 27.7; average age of patients, 23.2 years. In the case that improved but was not cured, the patient stopped treatment. All the cases were those of secondary syphilitic lesions. Each patient received an average quantity of 228 milligrammes (gr. 3.5). Only three times did suppuration occur at the site of injection. As regards the duration of treatment, then, it is seen that mercuric alanine has some advantage over the bichloride; as to the quantity to be used it has a decided advantage, the quantities being as 22.8 to 42. With regard to the efficacy of the alaninate, in twelve cases (out of the twenty) that could be seen to ascertain if any recurrence had taken place, there was only one case of recurrence, in a case of syphilitic papule of the larynx. From this it seems that the alininate gives more permanent results than other mercurial preparations. Further, in not a single case in which the drug was used by injection was there any stomatitis or other unpleasant effect produced.

From a tabulated statement of twenty cases treated by the internal use of the drug, it is seen that for the cure of ten adults with secondary syphilitic lesions, there was an average of 45.4 days and 641 milligrammes to each patient. Of ten children treated one died on the third day. For the cure of the remaining nine, of an average age of 7.4 months, with hereditary or acquired syphilis, each required an average of 54.6 days, and 159 milligrammes of the drug. Of the nine cured six were seen in from eight to nine months after treatment was stopped, and there was no recurrence in any one them. There was not a case of stomatitis, and only one case of intolerance of the drug, which was completely controlled by the administration of cocaine. Regarding the internal use of the alaninate, then, it is not to be preferred to the tannate or the phenate of mercury in the opinion of DeLuca, but the easy tolerance of the drug, and the excellent manner in which it acts on syphilis in infants, make it an important addition to the list of antisyphilitics. The child that died was only two months old, and was in a desperate condition when it came under treatment. DeLuca claims that the decidedly calmative effect of the drug gives especially happy results in children.

The author thinks that the drug is worthy of confidence, and that time may prove that it will give good results in the late manifestations of syphilis.—*La Riforma Medica*, March 22 and 23, 1888.

THE EXCISION AND SCRAPING OF CARBUNCLE.

Mr. Rushton Parker, of Liverpool, says that there are few procedures in practical surgery that better deserve recommendation than the local extirpation of carbuncle, of which the pain and tenderness are thereby ended, and the state of gangrene, always virulent and sometimes inveterately spreading, replaced by simple inflammation in a healing sore. If the carbuncle be small enough, or seen early enough, an

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abortive treatment may be sometimes practicable by syringing through it an effective antiseptic liquid; but we seldom get such a good chance of doing this in carbuncle as in boil. He has several times arrested a boil in its early commencement, when little more than a pustule in a hair-follicle, by injecting strong carbolic or sublimate solution a few times, at short intervals, with a hypodermic syringe. But the manipulation necessary for this, even in a small carbuncle, is at least as painful and as prolonged as the excision of the virulent centre (or centres), and not appreciably more saving of tissue. The effect of excision is an immediate end to the very acute painfulness, and a gradual but sure end to the constitutional disturbance. The carbuncle may require erasion or excision, or both, according to the density of the inflamed tissues. Mr. Parker gives five cases, some of which may be quoted here:

CASE 1.—Girl, aged 19 years, with an acute brawny inflammation of the left side of the chin, of four days' duration. Under chloroform an incision was made, and the nodule inspected within, as there was a question of malignant pustule. The tissues in the centre were gray and purple, and the nodule was decided to be a carbuncle. A conical piece was excised, pure carbolic acid put into the wound, with a sublimate dressing laid on. The inflammation melted rapidly away, day by day, and the girl was entirely well in a fortnight. Here the best practicable form of immediate local extirpation seemed to be excision with a sharp knife, on account of the density of the tissues. The virulent centre was about the size of a pea, yet the collateral swelling was as big as half a walnut.

CASE 2.—A night-soil carter, aged 23, had a pimple on his neck. This he picked, and on the second day after his neck began to swell, and his head to ache intensely. On the fourth day he came to the Liverpool Royal Infirmary, with the left side of his neck in a swollen, red, angry state, very much like malignant pustule; his temperature was 104°. Excision of the centre, dirty-gray and purplish, with some surrounding skin, was done without an anæsthetic shortly after his admission. Pure carbolic acid was put in, and sublimate dressings applied. Temperature 105° in the evening, but fell to 100° during the night. Temperature remained above 100° until the third day after admission. On clinical grounds the case was regarded as a mild form of malignant pustule, but as neither the juice of the excised fragment nor the patient's blood nor urine showed bacilli under the microscope, the case is now considered to have been one of carbuncle with unusually severe symptoms, presumably due to ptomaine poisoning.

In a case of carbuncle on the back of the neck, a crucial incision was made under chloroform, and most of the carbuncular tissue being soft and pulpy, it was removed by means of the sharp spoon. The bleeding was abundant, but was controlled with hot water and pressure with sponges. The patient became perfectly comfortable, and made a good recovery under dressings of sublimate and eucalyptus ointment.

The use of pure carbolic acid has the advantage that the acid produces local anæsthesia in addition to its antiseptic qualities—*British Medical Journal*, March 31, 1888.

THE PRESENT STATE OF CARDIAC THERAPEUTICS.

Dr. JAMES STEWART has an excellent article on this subject in the *Canada Medical and Surgical Journal*, February, 1888. In speaking of the treatment of acute inflammations of the endocardium he points out the great value of rest, which means low blood-pressure, and consequently less work for the valves to do. The rest may be aided by drugs that lower blood-pressure, such as chloral. He does not approve of blood-letting and blisters over the præcordia, because the latter is injurious, and the former of only temporary benefit. Of the treatment of heart diseases during the pe-

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riod of compensation he speaks favorably of Oertel's plan, which consists in strengthening the muscular system, including the heart, by regular and graduated outdoor exercise; aiding nutrition by a diet rich in albumen, and by careful regulation of the quantity of fluids taken. This plan is probably adapted to cases of threatened cardiac failure from beginning fatty degeneration and from chest deformity or pulmonary disease. When there is such loss of compensation as to render exercise impossible, then digitalis is of great value. The first marked effect of cardiac failure is diminution of the aortic blood-pressure, which is shown by a diminished excretion of urea. It is safe to continue the administration of digitalis so long as it causes an increase in the quantity of urine excreted. The diuretic power of digitalis is dependent entirely on its power of raising an abnormally low blood-pressure, and in order to do this it must be given in full doses. If, after being increased by digitalis, the urine diminishes considerably, the drug should be discontinued immediately; and this decrease is a warning that should never be neglected. There is a great difference in the quantity of digitalis necessary to cause diuresis, since patients differ greatly in their susceptibility to it. In the majority of cases 40 minims of the tincture, given four times a day for three days, will cause the diminution, but sometimes so much as half an ounce in divided doses is required.

The best results are obtained in these cases by absolute rest in bed, with full doses of digitalis. Scillain, helleborein, eleandrin, adonidin, convallaramin, and strophanthin also increase the blood-pressure and slow the heart. Mercury is a direct diuretic; hence the value of the old combination of digitalis, squills, and mercury. Dr. Stewart speaks hopefully of strophanthin, and favorably of the effect of caffeine, especially of the natro-salicylate of caffeine, which is a powerful direct diuretic acting on the epithelium of the convoluted tubules, and probably on that of the glomeruli. It acts promptly. Good results may be had from a combination of digitalis and caffeine.

WOUND OF THE LEFT VENTRICLE; RECOVERY.

Dr. A. P. KIAWKOFF reports the remarkable case of a Cossack, who received a wound from a dagger in the left side of his chest. A physician saw the patient almost immediately, and found him lying on the ground, unconscious, and with stertorous breathing. The man's chest was covered with blood, and in the fourth intercostal space, in the mammillary line, and parallel with the border of the ribs, was a wound about 1.5 inches long from which blood was still flowing. The wound was cleansed, a compress put on, and restoratives applied, after which the patient became conscious. On the next day his general condition was very good; pulse 90 and small, temperature 37.8 C. Examination of the chest showed the upper boundary of cardiac dullness in the fourth intercostal space, and the cardiac impulse was faulty. The lower percussion boundary was at the upper border of the seventh rib. The right boundary reached beyond the right parasternal line, and the left boundary about three centimetres beyond the left mammillary line.

On the third day the patient was taken to a hospital, which he left after a stay of four weeks, cured. Five days after leaving the hospital he suddenly dropped dead while trying to lift a heavy object.

The autopsy showed that the heart wound was completely closed, and the outer layer of the pericardium adherent to the wall of the thorax. The pericardium was filled with dark blood; in the left ventricle was a gaping wound, 1.4 centimetres long, the edges of which were thickened, and the neighboring muscular tissue in a state of fatty degeneration; there was also acute endocarditis.

The case, then, was one of healed wound of the left ventricle, but the patient died from too early strain on his weakened heart.

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The cicatrix was too young, and the endocarditis had not passed off. The heart could not stand the strain of the sudden inrush of blood, and the cicatrix ruptured. This case makes 7 per cent. of recoveries of recorded cases of heart wound.—*Centralblatt für Chirurgie*, No. 12, 1888.

CYSTIC TUMOR OF THE LARYNX.

Dr. C. M. DESVERNINE, of Havana, reports a case of this rare affection. It was the case of a man, aged 70 years, a Cuban, who came under Desvernine's treatment for chronic hoarseness and symptoms referable to the digestive organs; intense epigastric pain, paroxysmal, and regurgitation of food within a few minutes after eating. The man knew nothing of his family history, but he was neither alcoholic nor syphilitic. He had dysphagia from organic (cancerous) stricture of the œsophagus at its lower third, and there was typical bilateral dysphonia. Laryngoscopic examination showed that the organ was normal in all its parts except the right vocal cord, the middle third of which was so enlarged as to present a general fusiform appearance. Its bilateral movements were correctly performed, abduction and adduction being full, complete, and energetic. General tension, on the contrary, was *nil*. During efforts at vocalization the appearance of the cord was not changed, and during the utterance of liquid sounds the corresponding arytenoid was dragged and forcibly inclined towards the centre of the larynx. The color of the cord was a faded white, reflecting less light than the other. It was most probable that the cord was invaded by a dense and inelastic product, and the diagnosis of interstitial fibroma and diffuse chorditis was made.

The patient died of the carcinomatous infiltration of the œsophagus. Direct laryngeal inspection showed the same appearance as the ante-mortem examination. The fusiform enlargement occupied the anterior part of the middle third of the cord, and measured 6 mm. in its greatest diameter. It fluctuated on pressure, and a few drops of a clear mucoid liquid escaped. In the cord was a cavity measuring 5 mm. in transverse diameter, and 3.5 mm. vertically.

There is up to this time, says the author, no complete histological record of such a tumor, and he promises the results of the histological examination of this case at an early date.—*Cronica Médico-Quirúrgica de la Habana*, March, 1888.

HAIR-TUMOR OF THE STOMACH; GASTROTOMY; RECOVERY.

JOHN BERG reports the case of a married woman, age 26, who had suffered for three years with symptoms of dyspepsia and anæmia, and with attacks of vomiting of glairy mucus. For two years a tumor had been noticed in the epigastric region, and it had grown more rapidly during the past six months. She entered the Seraphim Hospital in Stockholm on May 31, 1887. In the epigastric and left hypochondriac regions, between the prolongation of the parasternal line and the left mammillary line was a tumor as large as the hand, with a concave upper and a convex lower border. It could not be displaced towards the region of the kidney. The spleen was in its normal position. Laparotomy showed that the tumor was in the stomach, which was opened by an incision six or eight centimetres long, parallel to the greater curvature. The tumor was composed of hair, short and long, forcibly compressed. It was cut up and removed piecemeal. The tumor weighed about 900 grammes. The wound was closed by 23 sutures, in a double row. Union occurred by first intention, and complete recovery ensued. The mother of the woman said that when she was about three years old she was in the habit of chewing and swallowing hair, but the patient denied having done so since she could remember. With the cases of Schonborn and Knowsley Thornton, this makes three cases of this operation, all successful, for hair-tumor.—*Nordiskt Medicinskt Arkiv*, Bd. 19, No. 25.

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CALOMEL IN PHAGEDÆNA.

Surgeon-Major T. J. GALLWEY, at Newcastle, Jamaica, writes to the *British Medical Journal*, of March 31, 1888:

I had a case of phagedænic ulceration of the under surface of the glans penis under my charge last August, which defied the recognized treatments of this disease. I applied nitric acid in the most thorough manner on six different occasions during a period of eighteen days without success. I then applied pure carbolic acid, but the disease again returned. Constitutional treatment with opium was adopted throughout. For six days the patient sat in a hot-water hip-bath on an average about four hours daily, without any appreciable effect on the course of the disease. The condition of the penis on the twenty-first day was as follows:

A large ulcer existed, covering the entire under surface of the glans, molding it like the mouth-piece of a flute, and extending to the reflected foreskin in the vicinity of the ulcer. A third of the glans had been destroyed. The surface of the ulcer was covered with a reddish grey secretion, irregularly disposed, and pierced here and there by large red granulations. The edges were angry and undermined.

I applied calomel powder on the twenty-first day of the disease, spreading it thickly, and pressing it well into the interstices of the ulcer. The calomel acted like magic; the ulcer began to heal rapidly. Now and then a suspicious spot appeared, but it was at once dissipated by a thorough application of the calomel. The patient made an excellent recovery, and was very pleased at the result, for he believed he was going to lose the whole affair. I was tempted to use calomel, as I had found it very useful in all forms of syphilitic ulceration.

THE VALUE OF IODOL.

Dr. ASSAKY has made a number of experiments to determine the value of this compound. It should be a yellow-brownish powder, inodorous when recently prepared, almost insoluble in water, soluble in alcohol, ether, fatty oils, and crystallizable acetic acid, and should contain from 85 to 89 per centum of iodine.

In Assaky's hands, operation wounds that were dusted over with iodol healed by primary union. In sloughing and suppurating wounds it proved an excellent antiseptic, rapidly drying up all purulent secretion. Since it is not toxic it may be used in large quantity without inconvenience. Assaky claims that it is highly probable that it destroys pyogenic organisms. It gives excellent results when used in and on wounds having a tendency to ulcerate, and transforms them in a short time into freshly granulating surfaces. While it is a good dressing for indurated chancres, it gives variable results when used on soft chancres.

When taken internally, in doses of from 40 centigrammes to 2 grammes a day, it does not cause functional troubles, even when continued for a long time. It causes slight congestion of the nasal and conjunctival mucous membranes, but this disappears when large doses are taken. It does not cause albuminuria, but, on the contrary, it has perhaps a curative action in some cases of albuminuria. It has given good results in tertiary syphilitic affections, and in surgical scrofuloses, acting more rapidly than the alkaline iodides.

It may be used in powder, in a glycero-alcoholic solution, in gauze or iodolated collodion, in ethereal solution, or it may be incorporated with vaseline or lanolin.—*L'Union Médicale*, March 18, 1888.

MUSHROOM-POISONING.

Dr. Matthes, in the *Berliner Klinische Wochenschrift*, No. 6, reports five cases of poisoning by mushrooms, including one nursing child. In all these cases the symptoms were alike. When first seen the patients were delirious, as though from alchohol. The face was cold and pale, lips bluish, respiration superficial and very frequent, pulse slow and interrupted, pupils wide and without reaction to light. The

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treatment was emetics and purgatives and hypodermic injections of ether.

Soon tonic spasms occurred, which were made specially noticeable by the ether injections. They also occurred on shaking the bed, or by throwing a bright light in the face, and, even, spontaneously. The convulsions were repeated at intervals of eight to ten minutes, and lasted about two hours. At one time there appeared to be danger of heart failure, and the doctor contemplated hypodermic injections of strychnine, but was deterred by the fear of complaints, in case of a fatal result.

Pieces of the common fly mushroom (*Amanta rubesens*), along with other edible mushrooms, were found in the vomited matter.

The first symptoms occurred three and a half to four hours after eating. They were described by one of the patients as severe gastralgia, followed by symptoms like alcoholic intoxication. The next morning the patients were in a fair condition, only suffering with a disagreeable feeling in the head.

The special interest in the case is the convulsions, which are not common.

LESTER CURTIS.

MENSTRUATION FROM A LAPAROTOMY SCAR.

Professor GEORGE E. REIN recently exhibited to the Obstetrical and Gynæcological Society of Kew a menstruating woman, upon whom he operated about three years ago for a large cyst of the right ovary, the pedicle being fixed in the abdominal wound. The patient made a good recovery, and the wound healed entirely except that at one part of the scar there remained a very small slough, which fell off just before the occurrence of menstruation, after which there was a constant flow of blood from the denuded surface during the whole of the menstrual period. This had occurred regularly every month since the woman recovered, the scar usually beginning to bleed a little earlier than the uterine flow appears. The blood from the cicatrix has the characteristic menstrual odor. It is possible that a Fallopian tube or one of the cornua of the uterus was stitched into the abdominal wound with the pedicle. As Professor Rein will have to perform a second operation soon for disease of the left ovary, he hopes to discover the cause of this rare and very interesting occurrence.—*Vratch*, February 18, 1888.

SEPTICÆMIA AND PUERPERAL THROMBOSIS.

FATTY HEART; TREATMENT BY MASSAGE, SPARTEINE, AND EXERCISE; RECOVERY.

Dr. D. ANTONIO PEÑAFIEL, of Mexico, reports an interesting case under the above title. The massage was applied to the œdema caused by the thrombosis. He believes massage and mechanical exercise was a very important part of his treatment. The sparteine was given in daily doses of from one milligramme to one centigramme, and it had an almost immediate effect upon the heart. It increased the quantity of urine without causing the inconveniences seen in the administration of other diuretics, and without showing any cumulative action. The diet in this case was almost exclusively of milk. The case was not one of classic Stokes' fatty degeneration, the diminution of cardiac force being neither permanent nor uniform. There were no cerebral symptoms, and no disturbance of respiration in consequence of left ventricular weakness. The heart was rather in a state of obesity than of fatty degeneration.—*Gaceta de Médica de Mexico*, Tom. 23, Ent. 5.

TRANSPLANTATION OF THE CORNEA.

VON HIPPEL reports two cases of successful transplantation of the cornea of the Guinea-pig, in leucoma, in which Descemet's membrane was not involved. In one case the central leucoma was removed by

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means of a specially constructed trephine of a diameter of about four mm., up to the membrane of Descemet. A piece of the cornea of a Guinea-pig the size of the piece removed from the human eye was transplanted. This healed readily and remained transparent. One of the patients who could before the operation only count fingers a two metres, regained sight up to 20-200. The second case was one in which a central leucoma remained after ulcus serpens. In this case a piece of cornea four mm. in diameter was transplanted in the same manner, and with equally good results.—*Centralbl. für die medicinischen Wissenchaften*, January 28, 1888.

NEW METHOD OF REDUCING STRANGULATED INGUINAL HERNIA.

G. S. PERRO reports a series of successes with the following method:

After the pelvis has been raised on a pillow, and the thigh flexed and abducted, the operator grasps the scrotum and the hernial tumor, bends it slightly over and against the wall of the abdomen, and presses upon it in such a manner that the index finger of the right hand is carried into the inguinal canal, and in the direction of the horizontal ramus of the pubis by a turning and boring motion. In a short time the strangulated part slips back into the abdomen, and the other part of the hernia follows. By this method Perro has succeeded in reducing six cases of strangulated hernia after his colleagues had spent from twelve to thirty hours in vain attempts at reduction.—*Centralblatt für Chirurgie*, November 12, 1888.

DOMESTIC CORRESPONDENCE.

TO THE EDITOR: Recent issues of many medical journals contain complaints from medical editors and contributors of the over-crowded condition of the profession, and of the continued annual addition of numerous graduates from the colleges increasing the plethora. "Diploma Mills," "Diploma-mill Professors," and other uncomplimentary terms are indulged in to designate, seemingly, all medical colleges and all medical teachers.

It is not the purpose of this article to combat these complaints, for it is quite universally conceded that the medical profession is over-crowded; that the mode of teaching in many colleges is lax, and the time of study too short in nearly all medical colleges; and that too many are annually graduated and *licensed by the diplomas they hold* to at once practice medicine. It is true, too, that many students are received in some colleges who are, by reason of a lack of even a reasonable knowledge of English, quite unprepared to study medicine. But will this condition of affairs be removed, or even improved, by the methods of attack mentioned above?

It seems improbable as long as a diploma alone is accepted as entitling the holder of it to practice, or it is accepted by the licensing board of a State as sufficient evidence of qualification. Minnesota has fairly indicated what should be done. The licensing power of that State is a State Board of Medical Examiners, the members of which are not connected in any way with a medical college.

This board requires of all who desire to begin the practice of medicine in the State, a satisfactory examination in medicine and surgery. Only those are eligible to such an examination who have studied medicine for three years, during which time they must have attended *three annual* courses of lectures of *at least* six months each. A similar law regulates the practice of medicine in California. A few other States have laws which in some measure approach that of Minnesota, but which are still faulty. Our own State Board of Health has done much to elevate the standard of medical education in Illinois; but we need an examining board similar to that of Minneso-

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ta. No so-called school of medicine should be recognized. No one connected in any way with a medical college should be eligible to membership on the board. The requirements of eligibility to these examinations should be not less than in Minnesota —that is, not less than three years of study —which should include attendance upon three annual courses of lectures of not less than six months each, in a college which requires and enforces a good English education and accompanying mental discipline, preliminary to the study of medicine. With such requirements from every man the prospect of elevating the standard of medical education and requirement will be materially increased.

The difficulties in the way of securing a diploma, and with it a license to practice, will be so increased that fewer men will attempt it—the ones least prepared to study will drop out. A diminution in the number of students will necessarily close such colleges as depend for support upon those who study medicine because a diploma is easily secured. There are colleges which will support, and aid in securing, this needed reform. Let the general profession take the initative step at once in local and State societies. If a draft of a bill be agreed upon and the influence of the physicians in the State be brought to bear on their representatives in the legislature, desired legislation may be secured.

We have indicated the outlines of the only method of reform in medical education. As occasion requires we shall discuss the subject more minutely. We ask those members of the profession, and especially our medical contemporaries, who have spent their efforts in vainly decrying medical colleges and medical college professors, to join with us in securing needed reform. And one of the most effective means to that end would make all medical colleges simply teaching bodies, granting no diplomas which should imply a right to practice medicine.

235 State Street. Frank Billings.

BOOK-REVIEWS.

(I.) Diseases of the Skin. A Manual for Practitioners and Students. By W. Allan Jamieson, M. D., F. R. C. P. Ed., etc. Edinburgh: Young J. Pentland. Philadelphia: J. B. Lippincott Co. 1888.

(II.) Dermatitis Venenata. An Account of the Action of External Irritants upon the Skin. By James C. White, M. D., etc. Boston: Damrell & Upham. 1888.

(III.) A Practical Treatise on Diseases of the Skin. By John V. Shoemaker, A. M., M. D., etc, New York: D. Appleton & Co. 1888.

(I.) The author of this volume has earned for himself a deserved reputation in the field of dermatological literature by his editorial supervision, for a number of years past, of the Periscope of Diseases of the Skin, in the now venerable and always valuable *Edinburgh Medical Journal*. He has also from time to time made contributions of note to general medical literature in connection with the same subject. He is a careful writer, a close observer, an indefatigable student, and easily second of the recognized Scottish writers in cutaneous medicine.

That he has the courage of his convictions is shown by the significant fact that in the twelve-month which has recorded the issue from the press of the large and comprehensive treatise on diseases of the skin written by his Scotch colleague, Dr. M'Call Anderson, of Glasgow, he has ventured to publish a work of similar scope. The present population of Edinburgh is less than 250,000, the town being in fact less populous than either San Francisco or Baltimore of American cities. It is, however, a town which has the unenviable notoriety of suffering from more than its share of cutaneous ailments, and in particular of surpassing in the frequency of occurrence of "the itch."

Dr. Jamieson's book is a clever and rather carefully written essay on the themes of which he treats, with certain defects which are only too apparent to the American reader. Among these may be mentioned, first, the conspicuous lack of a systematic arrangement of his several subjects, with separate chapters exclusively devoted to individual diseases, and the arrangement of the paragraphs devoted to each under the heads, pathology, etiology, etc.; second, the adoption of a scheme of classification devised by a single American writer, Dr. L. D. Bulkley, of New York, which has been adopted by no other author and no qualified body of men either at home or abroad; third, an acceptance of many of the doctrines proposed and sustained solely by Mr.

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Jonathan Hutchinson, the eminent president of the Royal College of Surgeons in England.

This is not properly the occasion on which to discuss the special place which that distinguished gentleman has won for himself in the scientific pantheon. It is all that a large ambition might covet and a noble reputation fitly hold. As a surgeon; as an oculist, and as a dermatologist, he is equally expert, but it is to be laid to his charge that among living men there are few who have in their writings contributed more than he to that confusion in the mind of the average practitioner respecting diseases of the skin which has made dermatology the reproach of its sister sciences. His lack of system, his hasty enunciation of personal views which fail to receive support of observers of the same field in other countries when tested by the severe ordeal of extended personal experience, and his fondness for imitating the late Sir Erasmus Wilson in coining new phrases for the designation of well understood and properly classified phenomena, these are but a few of Mr. Hutchinson's scientific faults; and these are, it must be confessed, the lines in which Dr. Jamieson, when walking in the footsteps of the man he admires, has been occasionally diverted from the best course.

For example, our author, in discussing the subject of eczema, properly denies its contagiousness, but couples this with hints which look toward another possibility; for example, pointing out that an eczema sometimes spreads to regions whither its characteristic discharge has flowed. This is practically the doctrine of the old women in the nursery. It is true that an eczema occasionally extends to the parts whither its discharge has dropped down or flowed down; but it is also true not only that the patch may extend upward while the discharge is dropping downward over an unaffected and irresponsive integument, but also that the discharge is wholly incapable of acquiring any contagious quality in the only phases of eczema in which it is produced, viz., those of acute type, since it consists, for the larger part certainly, of the serum of the blood only, which traverses the swollen tissues with such rapidity as to be incapable of receiving from them any infective principle, were such present. If, as Jamieson states, it may by this means be "communicated to others in the same way," it is difficult to understand why the disease is not, at least, infectious, a fact denied by every writer of repute on the subject, and controverted by clinical experience the world over. The author, in this connection, credits Krock with the enunciation of the doctrine (in 1885), that new patches of disease on the skin of the eczematous patient are produced by a reflex along the trophic nerves, from the irritation set up in the patches of infiltration, where the disease originally appeared; but long before this date, Kaposi formally enunciated the same obvious truth in his excellent treatise.

The author devotes many pages to a consideration of the various features of eczema and other different disorders (*e. g.* pityriasis maculata et circinata, pityriasis rosea), under the title of "Lichen," a name which, as dissociated from lichen pilaris, lichen scrofulosorum, lichen planus, and lichen ruber, is slowly dying out of the confusion from which the immortal Hebra was early to remove it. It is almost incredible that a modern author should thus revive its shadowy and unsubstantial ghost. Jamieson also, in connection with the curious disorder named above (pityriasis maculata et circinata, pityriasis rosea, of Bazin), neglects to credit an American writer of Chicago, who, in the *British Medical Journal* of last year, was first to point out to Dr. Jamieson and his colleagues that Wilson had probably observed this disease when he wrote some of his descriptions of lichen circumscriptus and lichen marginatus.

The author has occasionally permitted himself to lapse into a carelessness of expression which is scarcely to be looked for in a formal treatise designed for students and practitioners. Though properly describing "crusts" among the lesions of the skin, he repeatedly employs as a substitute for this the word "scab," a term describing rather the indefinite ideas of the dispensary patient than the exacter conceptions of the dispensary physician. On page 411, we find, "should baldness have shown symptoms, more energetic measures *are* needed," etc. Again, p. 26, "inflammation is set up at the roots and beneath the nails."

It would appear that the author is not familiar with the American method of employing the annealed jeweler's broach for the purpose of removing hairs by electrolysis, as he commends for this purpose the far inferior "diamond" cambric needle, an instrument altogether too unyielding for the production of what a distinguished American teacher of the art has described as the "catheterization" of the hair-follicle.

On the whole, Dr. Jamieson's work may be viewed as a fair compend of the knowledge generally had on the subjects of which he treats, with the special advantage to Scotch readers of informing them of what Americans are doing and have done in the field covered.

We may possibly deplore the fact that a great deal of our chaff has thus been spread abroad over the world; but can note with some pride that the day which sees this work issue from the Edinburgh press, is not that of the past in which every contribution made to scientific literature on this side the Atlantic was despised in Great Britain. What has wrought the change? Is it an indefinite advance

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along the line, made by toilers and delvers in every department of science? This is the essential cause, but the major element of importance is the fact that right under the noses of the older writers in medicine, books by American authors are sold in Edinburgh, Glasgow, and London; studied by lay and professional readers alike; and are by no possibility any longer ignored by persons claiming to represent the best fruit of research in any department of medical science.

(II.) Professor White's essay on Dermatitis Medicamentosa, originally read as a paper before the American Dermatological Association, has grown into a book; and while it is not a large or a pretentious book, it is one of the very best kind offered to the library of the practitioner. For there are some books which contain facts good enough and valuable enough in themselves, but which may be found as well or more concisely set forth in another book or books upon the same shelf. Professor White's book is one of that precious order that contain facts nowhere so systematically explained as in its special pages. As a work of reference there is actually nothing to take its special and valuable place.

The action of external irritants upon the skin is so extensive and important, that its fullest exploration almost involves the study of human life from the moment it quits its sub-aqueous existence, to the hour when it ceases to respond to irritation of any kind. In a large sense, this might include all the diseases of the economy, and every source of variation from the standards of health of all the organs of the body. Professor White's treatise comprehends, however, more definitely the study of those dermatoses which originate in the direct action of externally applied irritants, whether of the animal, or vegetable, or mineral world, or of classes of matter less readily assigned to a special kingdom.

Few men are better fitted for such a task than our author. He is not only in reputation and position as a teacher the most venerable of American dermatologists, but is also an expert botanist, and one of the best comparative anatomists in the country. His knowledge is systematized to a degree rarely achieved by the most learned scientists of our day. He is, above all things, practical in the precepts which are suggested by his researches, and not without that cool disdain of ignorance and unsupported fact which is only equaled by his distrust of what is not demonstrable.

The chapters he has devoted to arsenical poisoning, resulting from the use of the metal in the ornamentation of articles for domestic purposes; on rhus poisoning; on the toxic effects of arnica when externally applied in certain cases, and on the bullous efflorescence occasionally encountered on the skins of newly-arrived immigrants, all exhibit the evidences of careful, original observation in connection with subjects long associated with Professor White's name and authority.

In the section devoted to the Solidago, or Golden-en Rod, the author describes a mild form of dermatitis which he has observed upon the hands of those who have handled the plant; but with characteristic caution, he hesitates to pronounce absolutely upon the cause in the case of those who, having been gathering wild-flowers in the woods, are there exposed unwittingly to the "ubiquitous rhus." But there are many reasons for believing that the suspicions of the author are more than well-founded. Not only is the plant irritating to the skin, but a number of asthmatic subjects of both sexes positively declare that accesses of dyspnœa are brought on both by direct exposure to the plant in contact and also, by breathing the air of the road-ways alongside of which the plant is flowering. The relation occasionally observed between asthma and eczema in individuals of susceptible skin and mucous membranes, illustrates the fact that these organs protest at times with equal energy against influences which, in the mass of men and women, produce only the faintest temporary impression.

Dr. White's valuable book is warmly commended to every practitioner who has an interest in accumulating a good medical library for reference purposes; as also to the dermatologist, the practical physician, the botanist, and the naturalist.

III. A great contrast is exhibited between Professor White's original work in the treatise just considered, and the volume written by Dr. Shoemaker, with regard to which the author says: "All that I claim in it as especially original is a statement of the relative effects and values of numerous agents tested in my own many years of clinical experience in the treatment of skin diseases."

It would be only just, on the basis of this plea, to admit fully the claim put forward for his statement. It presumably refers to the eight pages devoted to the oleates as topical applications in cutaneous disorders, the notoriety to say nothing of the value of several of which constitutes the author's chief claim upon the professional public for attention. Some of these special articles, such as the mercuric and lead oleates, had a value and usefulness which were recognized before Dr. Shoemaker's "many years of clinical experience." With these few exceptions, there will be difficulty in establishing the fact that the others have won for themselves any substantial place in dermatological therapeutics.

For what else is contained in the book, the author, making no special claim for originality, may be properly credited with making a fair compilation from the published works of other writers. He

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does not take the trouble to credit some of the gentlemen, who have written before, with what they have done. One might suppose that he would in his preface have acknowledged his indebtedness to the distinguished American author on dermatology, who is not only his professional colleague, but a resident of the same city in which Dr. Shoemaker resides. One could scarcely know from anything here set forth, that a considerable number of American dermatologists have been associated in the task of advancing the study of cutaneous medicine in this country by indefatigable work, have collated the only dermatological statistics worth consideration on this side of the Atlantic, and have contributed papers, edited journals, and written elaborate treatises in the special field which Dr. Shoemaker seeks to occupy for the purpose of "supplying the needs of the medical student and of the busy physician."

The result is that where the published text-books are defective, because not brought up to date, Dr. Shoemaker's pages, brought up to no later date, betray his failure to extend his studies into the fields where the later observers have been at work. For example, he devotes nine lines to a consideration of Duhring's "inflammatory fungoid neoplasm" under the head of sarcoma, exactly where the subject was left by Dr. Duhring when his last edition was issued from the press. But that distinguished author would scarcely think to-day, if revising the work he did so well in the past, of neglecting to separate all forms of sarcoma from the mycosis fungoides in whose lesions Auspitz and others have recognized micro-organisms. Even if not yet assuredly admitted to the separated and distinguished class of disorders where probably tuberculosis, lupus, syphilis, rhinoscleroma, and lepra have fixed themselves permanently, no writer can afford to-day to ignore the claim set forward to advance mycosis fungoides to this category. Yet the name does not even appear in Dr. Shoemaker's book. Nor, it may be mentioned in the same connection, could one gather from anything written in these pages, that there had even been a claim made that syphilis was entitled to such position; nor is it even hinted that a bacillus had ever strayed into the field of vision of a seeker for the essence of the potency of its venereal virus.

This is in truth the age of commercialism, in law, letters, society, and medicine. The work before us belongs to the commercial class of medical books. It contains nearly sixty pages of prescriptions for the relief of diseases of the skin. And while men and women believe that money is the chief end of man, perhaps they will continue to cling to the delusion which still smacks of the darkness of the middle ages, that a man can buy with money a prescription that will cure him of his skin disease. Why not "touch" again for the King's Evil, and hang for witchcraft?

AN INDEX OF MATERIA MEDICA, WITH PRESCRIPTION WRITING, INCLUDING PRACTICAL EXERCISES. By CHARLES H. MAY, M. D., and CHARLES F. MASON, M. D. Pp. vi and 267. New York: William Wood & Company. 1887. Chicago: W. T. Keener.

This is the last addition to Wood's Pocket Manuals. The authors have had large experience in coaching students for examination, and state in the preface that they think the book is what is needed by students preparing for examinations. The first part consists in a list of the officinal and many non-officinal drugs, with their source and dose. This list is alphabetically arranged, and has occasional blank pages for additions. The part of the book which treats of prescription writing is well done.

QUESTIONS AND ANSWERS ON THE ESSENTIALS OF PHYSIOLOGY, PREPARED ESPECIALLY FOR STUDENTS OF MEDICINE. By H. A. HARE, B. Sc., M. D. (Univ. of Pa.). Pp. vi and 170. Philadelphia: W. B. Saunders. 1888.

The author is well aware of the disfavor with which such books as this are received by the profession, and says in its defense that the short period of study required as preliminary for examinations for the medical degree makes such books necessary. The selections have been intelligently made; the style is clear. The book is not, in any sense, a substitute for one of the regular text-books upon the subject treated, but may be of value in preparing for examinations.

OBSTETRIC SYNOPSIS. By JOHN S. STEWART, M. D. Pp. x and 202. Small 12mo. Philadelphia: F. A. Davis. 1888.

The fundamental objection to all books of the class to which this belongs is that they attempt what is impossible. Satisfactory discussion of the subject cannot be accomplished in the space allowed, and as books of ready reference, they can hardly be more useful than the larger complete works. So far as it is possible under the conditions, the author has done his work well in this case. A cut and description of the new Stewart forceps is given. At a recent meeting of the Philadelphia Obstetrical Society, this forceps was not favorably received.

SIX HUNDRED MEDICAL DON'TS; OR, THE PHYSICIAN'S UTILITY ADVANCED. By F. C. VALENTINE, M. D. New York: G. W. Dillingham. 1888.

It appears from the title page that the author has also published, among other volumes, one on "Central American Medical Curiosities," and the average

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reader may fail to understand why this small one was not included in the larger work. However, the author has endeavored to write a book for the use of laymen, and one which he hopes will make them more reasonable and intelligent as patients. It contains 600 numbered paragraphs, each one of which begins with the word "Don't." The conception of the book is so fundamentally undignified, and its literary solecisms are so numerous, that it deserves emphatic adverse criticism.

ESSENTIALS OF CHEMISTRY AND TOXICOLOGY. FOR THE USE OF STUDENTS IN MEDICINE. By R. A. WITTHOUS, A. M., M. D. Second edition. 294 pages. Pocket size. New York: William Wood & Company.

This small work has already won a place in the library of the medical student, and in many instances it is the only work on chemistry with which he has any acquaintance.

Admitting that the use of such books is commendable, no exception can be taken to the present volume. It contains 1,053 questions, relating to those parts of chemistry chiefly interesting to the physician, and answers to the same, given in a clear and concise manner. Of books of its scope, it is undoubtedly among the best. But should the student be encouraged to use such manuals, which, of necessity, are almost devoid of one of the most valuable features of a scientific book, viz., systematic method, logically followed out?

The American medical student has his "essentials" of chemistry, anatomy, physiology, histology, and of half a dozen other things, but where, in all of these, does he find his scientific discipline?

A PRACTICAL TREATISE ON THE MEDICAL AND SURGICAL USES OF ELECTRICITY. By GEO. M. BEARD, A. M., M. D., and A. D. ROCKWELL, A. M., M. D. Sixth edition. Revised by A. D. Rockwell, M. D. 758 pages, with 196 illustrations. Large 8 vo. New York: Wm. Wood & Company. 1888. Chicago: W. T. Keener.

The first edition of this work was published seventeen years ago, and was, in many respects, a pioneer among books of this class. In that edition the authors refer to the many disadvantages under which they labored in the pursuit of their experimental investigations, and to the, perhaps, greater drawbacks which the reader would encounter in trying to follow them in the practical application of their results.

Although at that time several American instrument makers were furnishing electrical and other apparatus to the schools, very few were engaged in the manufacture of batteries and other electrical appliances suitable for the physician's practice. Besides this, few, if any, of the medical schools were giving a course in general chemistry and electricity sufficiently extended to make the successful application of electricity to medicine by the average medical man practically possible. Much of the apparatus used in their earlier work was devised by the authors themselves.

In presenting their book to the public, they divided into four sections—*Electro-Physics*, *Electro-Physiology*, *Electro-Therapeutics*, and *Electro-Surgery*.

This division is maintained in the later editions. Sections three and four are, of course, mainly practical, and give in detail the experience of the authors and others in the application of electricity to the treatment of a great variety of cases. The recent advances in the use of the current in gynæcology seem to be fully considered, as are also a large number of applications in the field of surgery. The illustrations and descriptions of new forms of apparatus are good. The first and second sections of the work are no less valuable than the two "practical" sections. These were written to supply the want of accurate information on the topics of Electro-Physics and Electro-Physiology in the medical literature of the time, and in the subsequent revisions they have been improved to keep abreast with later discoveries in those lines.

To understand and take advantage of all the possibilities of his batteries and coils, the physician must be conversant with a good many chapters of physics, as well as with physiology. The sections in question seem to cover the ground as fully as necessary. In the discussion of the measurement of strength of currents, a number of practical examples are given, which are certainly an aid to the beginner, and the statement of Ohm's law and its consequences, with application to electro-therapeutics, is scientifically accurate, yet easily understood.

On the whole, the work can be cordially recommended.

A MANUAL OF WEIGHTS AND MEASURES. By OSCAR OLDBERG, Ph. D. Second edition. Revised. Pages iii, 246. Chicago: W. T. Keener.

The first edition of this little work, issued three years ago, was, unfortunately, marred by a large number of typographical errors. These have been corrected fully in the present edition, to which, besides, some new matter has been added. As it now stands, the book possesses great practical value to pharmacists and physicians, as its information regarding weights and volumes of the various solutions employed in medicine is accurate and complete.

The origin and relations of the different systems of weights and measures employed by civilized nations is explained, and the discussion of the vexed

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question of the metric system in medicine is considered from the standpoint of a man thoroughly conversant with all its phases.

I. ATLAS OF VENEREAL AND SKIN DISEASES. Comprising original contributions and selections from the works of Professor M. KAPOSI, of Vienna, Dr. J. HUTCHINSON, of London, Professor J. NEUMANN, of Vienna, etc. Edited by PRINCE A. MORROW, A. M., M. D., Clinical Professor of Venereal Diseases, etc. New York: William Wood & Company. 1888. Fasciculi, i, ii, iii, iv.

II. CLINICAL ATLAS OF VENEREAL AND SKIN DISEASES. Including Diagnosis, Prognosis, and Treatment. By Professor ROBERT W. TAYLOR, M. D. To be issued in eight parts, aggregating fifty-eight large chromo lithograph plates, measuring fourteen by eighteen inches, and contaning about two hundred figures, many of them life-size, with selections from the works of Cullerier, Fox, Fournier, Hebra, etc. Philadelphia: Lea Brothers & Company. 1888.

The profession is to be congratulated upon the fact that the field of illustration of cutaneous and venereal diseases, so long neglected in this country, is at last well occupied by two men having the distinguished ability and reputation of Professors Taylor and Morrow. The advanced plates furnished, of each of these atlases, are equally good, both in execution and in fidelity to nature; and are of an excellence so nearly attaining the same standard that it would be invidious to make distinctions between them. Both authors have a large clinical experience, and both, when selecting subjects for illustration outside of that experience, have, for the most part, turned to the same excellent sources, viz., the published plates of such eminent dermatologists and syphilographers as Hutchinson, Kaposi, Fournier, Neumann, and Ricord.

We can cordially recommend these admirable illustrations of disease to the general practitioner and student, as well as to the special investigator of the branches illustrated.

IRREGULARITIES OF THE TEETH, AND THEIR TREATMENT. By EUGENE S. TALBOT, M. D., D.D.S., Professor of Dental Surgery in the Woman's Medical College, and Lecturer on Dental Pathology and Surgery in Rush Medical College, Chicago. With 152 illustrations. Octavo, pp. 163. Philadelphia: P. Blakiston, Son & Co. 1888.

This book is an epitome of the latest and most advanced ideas in relation to the causes and treatment of irregularities of the teeth, with illustrations of the appliances invented by the author and those of Drs. Patrick, Farrar, Coffin, Guilford, Byrnes, Kingsley, Allan, Richardson, Matteson, Magill and others. It contains 163 pages and 152 illustrations. Many of the latter are entirely new, the greater number of which belong to the peculiarities of arrangement of the teeth.

The author has divided his book into two parts; the first being devoted to a description of the anatomy of the maxillæ and the teeth and their normal relationship; the etiology of dental irregularities, acquired, hereditary and accidental; and a brief consideration of the causes of irregularities of the teeth in idiots.

The second deals with the treatment of the various forms of irregularities and the construction and adaptation of appliances for special as well as the more common cases, and will on this account be found of great value to both practitioners and students.

Dr. Talbot is to be congratulated upon the careful manner in which he has gathered together so many valuable principles and condensed them into so small a compass.

The book is well indexed and the publishers seem to have spared no pains in performing their part of the work. J. S. M.

PAMPHLETS RECEIVED.

Transactions of the American Dermatological Association. Eleventh Annual Meeting, 1887.

Syphilis of the Endometrium. By T. A. Ashley, M. D.

The Galvano-Cautery Sound and its Application, Especially in Hypertrophy of the Prostate. By Robert Newman, M. D.

Synopsis of the Second Hundred Cases of Ureth ral Stricture, Treated by Electrolysis, with cases. By Robert Newman, M. D.

The Use of the Curette for the Relief of Hæmorrhage Due to Uterine Fibrods. By Henry C. Coe, M. D.

The Significance of Localization of Pain in Pelvic Disease. By Henry C. Coe, M. D.

Dangers in Gasoline. By John H. Kellogg, M. D.

First Quarterly Report of the Michigan State Laboratory of Hygiene. By Victor C. Vaughan, M.D., Ph. D.

The New York Medical Journal Visiting-List and Complete Pocket Account Book.

The Cure of Hernia. By Henry O. Marcy, A. M., M. D., LL. D.

Cystitis in the Female. By Henry O. Marcy, A. M., M. D., LL. D.

On the Use of the Vaginal Tampon in the Treatment of Certain Effects Following Pelvic Inflammations. By Thomas Addis Emmet, M. D

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Results of Observation in the Treatment of 2,072 Cases of Lateral Curvature of the Spine. By James Knight, M. D.

A Very Valuable Lesson for Those who Use Anæsthetics. By Julian J. Chisholm, M. D.

Are Dipsomania, Kleptomania, Pyromania, etc., Varied Forms of Mental Disease? By Orpheus Evarts, M. D.

The Lamb Prize Essays:

No. 1. Healthy Homes and Foods for the Working Classes. By Victor C. Vaughan, M. D., Ph. D.

No. 2. The Sanitary Conditions and Necessities of School-Houses and School-Life. By D. F. Lincoln, M. D.

No. 3. Disinfection and Individual Prophylaxis Against Infectious Diseases. By George M. Sternberg, M. D.

No. 4. The Preventable Causes of Disease, Injury, and Death in American Manufactories and Workshops, etc. By George H. Ireland.

MISCELLANEOUS.

The *Philadelphia Medical Times* says, in regard to substitution and adulteration, it must be admitted that in numerous cases the charge is a true one, and the evil is of growing dimensions. With the reduction in the margin of profits caused by the fierce business competition of the present day comes the temptation to adulterate, or substitute inferior quality. No condemnation can be too severe for the man who thus trifles with human life; and if he cannot carry on his business honestly, he had better abandon it and seek some other occupation.

Again, the outcry is made that the physician is too apt to prescribe various remedies, more or less proprietary in character, put up by large manufacturing concerns and introduced by skilled advertising, and thus require the druggist to carry an endless variety of such articles in stock, many of which are seldom or only once called for, and thus remain a dead loss to the proprietor. But is the physician much to blame? True, he is sometimes imposed upon by the bland and suave canvasser, and the glowing printed indorsements of his professional brethren in favor of some new remedy—*vide* stenocarpine. But when he sees remedies in convenient and compact shape, of appearance much more elegant than those he can procure from the corner druggist, and of at least equal efficacy, is it to be wondered that he should prefer X., Y., or Z.'s manufactures to the oftentime imperfectly prepared remedies of the pharmacopœia.

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And here let a word be said for that much abused class, the modern manufacturers of pharmaceutical specialties. The medical and pharmaceutical professions owe to them a great debt. It is their industry and their capital which have developed the perfection of the coated pill and the compressed tablet, the pancreatic ferment and the scale pepsin, the smooth and palatable cod liver oil emulsion and the perfected extracts of malt. To their energy do we owe the modern methods of treating disease with pre-digested and concentrated foods—a plan which has been the means of prolonging many valuable lives. They have spread the fame of American pharmacy over the entire globe, and established its supremacy against all competitors; therefore let them receive at least just recognition and honor for their labors.

THE SUMMER SESSION.—Tradition in medical schools disparages the summer session. The 1st of October is the student's New Year's Day. At once he begins his work in the dissecting room, and, with the exception of a few days' holiday at Christmas, his labors are continued till the end of March. The new requirements of the conjoint examining board will give greater importance to the summer session. The medical schools are shaping their arrangements in accordance with the new order. When the student enters in May, he will enjoy the advantage of getting used to hospital life, and will be able to spend part of his summer vacation in learning osteology. At the end of September he will know how to ensure a "part" in due season. It is, therefore, satisfactory to

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learn that the warden of the College at St. Bartholomew's Hospital has issued a notice encouraging the entrance of freshmen in May. The notice advises a student who has passed a preliminary examination in arts early in the year (and has not commenced medical study) to enter in May, and to pursue his studies as follows:

1. In his first summer session to attend chemistry lectures and practical chemistry, with lectures on chemical physics. At the end of this session to pass the examination of the examining board in England of the Royal College of Physicians and Royal College of Surgeons in these subjects. He thus goes from his chemistry lecture to the practical study of the subject, and has the direct stimulus in his work of a public examination at the end of the session. 2. In his first winter session to attend anatomy lectures and dissect; to attend physiology lectures and practical physiology classes. At the end of his first winter session to pass the examination of the examining board in elementary anatomy and physiology. 3. In his second summer session to attend materia medica lectures and practical pharmacy. At the end of this summer session to pass the examination of the examining board in materia medica and pharmacy. 4. In his second winter session to dissect, and to study practical physiology, and to attend the advanced course of lectures on anatomy. He may with advantage also attend a second course of physiology lectures. At the end of his second winter session, to pass the second examination of the examining board in anatomy and physiology. Although systematic clinical work is necessarily deferred until after a student has passed his examinations in anatomy, physiology, and the other elementary subjects, he should from the beginning of his career, take every opportunity of learning the rudiments of practical medicine and surgery by attendance, as opportunities occur to him, in the wards, out-patient rooms, and the *post-mortem* room.

We understand that other medical schools intend to follow the example long ago set by University and King's Colleges, and more recently by St. Mary's, and to encourage the entry of new students in summer.—*The British Medical Journal.*

AN ENGLISH SANITARIUM IN BRAZIL.—Among health-resorts beyond Europe, where invalids and tourists may find sunshine and warmth, and a dry, bracing climate, along with home comforts, San Paulo, in Brazil, has already attracted attention, says the *British Medical Journal*, of March 31, 1888. From Rio to San Paulo is a railway ride of thirteen hours, but from the port of Santos it is only a three hours' run. Santos is twenty-eight days from New York. San Paulo has now only between 40,000 and 50,000 inhabitants, among whom are Brazilians, Portuguese, Germans, Italians, French, English, and Americans. The climate, both winter and summer, is delightful, and has been recommended for pulmonary invalids. The atmosphere is dry and exhilarating, and the barometric range so remarkably limited that it does not exceed .75 inch throughout the year. The average maximum temperature in the hottest month, January, is 80° Fahr. in the shade; in the coldest month, July, 72°. The average minimum night temperature in January is 64°; in July, 49°. The number of days on which there is brilliant sunshine for the whole or the greater part of the day averages 235 per annum, and such days are pretty equally distributed throughout the year. San Paulo has no unhealthy season of the year. Invalids are recommended to spend both seasons there, and it is uncertain which is most beneficial; but they that want sea-bathing and a change can go to Santos for bathing in June or July. Two miles from the city a sanitarium has been built, is well drained and supplied with excellent water. An English physician is resident in San Paulo, and is an able guide and adviser to those that go there for health.

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RE-VACCINATION.

THE AGE FOR RE-VACCINATION.—The local government board has issued an order, dated February 3, 1888, amending former regulations as to the age at which re-vaccination may be furnished at the public expense. The new order provides that re-vaccination by a public vaccinator may be performed when the applicant has attained the age of twelve years (instead of fifteen years as heretofore), or in case of imminent danger from small-pox, at ten years (instead of twelve as heretofore), and has not before been successfully vaccinated.

The order further provides, with reference to children in public institutions, that the medical officer may re-vaccinate any one under ten years of age, whose primary vaccination he deems to have been inadequate, and who has not before been successfully re-vaccinated.

THE HYGIENIC SIGNIFICANCE OF RE-VACCINATION.—Dr. R. Gerstäcker, in a paper with the above title, gives some valuable data compiled from the reports of the Imperial Board of Health, and also from the report of the vaccination committee. From their tables it appears that the mortality from small-pox in Prussia, formerly differing but little from that of other countries, has fallen to a minimum under the operations of the vaccination law, so that small-pox may now be considered as having disappeared, except in some frontier districts, while Austria, with her defective regulations as to vaccination, and still more so as to re-vaccination, suffers severely from small-pox. Dr. Gerstäcker presents the following table as to the mortality from small-pox in London and in Berlin, with the comment that, while London enforces vaccination of the children, it has not enforced re-vaccination. He attributes the difference in the relative mortality from small-pox in the two cities to these facts.

DEATHS FROM SMALL-POX PER 100,000 INHABITANTS.

	1875	1876	1877	1878	1879	1880	1881	1882	1883
In London.....	1.3	20.8	71.0	38.8	12.1	12.5	61.9	11.1	3.4
In Berlin	5.2	1.8	0.4	0.8	0.7	0.8	4.7	0.4	0.3

The percentages in the following table, for a period of six years, also present further evidence of the advantages of re-vaccination.

BAVARIA.

	Cases of Small-Pox.	Deaths from Small-Pox.	Unvaccinated.			Vaccinated.			Re-vaccinated.		
			Cases.	Deaths.	Percentage of Deaths.	Cases.	Deaths.	Percentage of Deaths.	Cases.	Deaths.	Percentage of Deaths.
1879	145	22	17	7	41.1	110	15	13.6	18	0	0.
1880	404	58	27	10	37.0	336	43	12.8	41	5	12.2
1881	559	78	56	27	48.2	466	48	10.3	37	3	8.1
1882	468	71	33	15	45.5	349	51	14.6	86	5	5.8
1883	247	34	11	5	45.4	198	29	14.6	38	0	0.
1884	63	8	4	2	50.0	51	5	9.8	8	1	12.5
Average. ..			.....		44.6	.....		12.6	.....		6.1

Boston Medical and Surgical Journal.

THE TOXIC PRINCIPLE OF EXPIRED AIR.—Drs. Brown-Séquard and d'Arsonval have presented a communication to the Academy of Sciences, intended to demonstrate the existence of a toxic principle in air expired from the lungs of men, or other animals. The facts hitherto known are the following:

(1) Expired air almost always, if not always, contains ammonia, but in a quantity insufficient to account for the injurious action of such air.

(2) Expired air contains a small quantity of organic matters, which, if they are not already decomposed on leaviug the air-passages, yet have a marked tendency to rapid change.

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(3) Confined air, charged with pulmonary exhalations, is not injurious, on account of the carbonic acid contained in it. Atmospheric air to which 1 per cent. of carbonic acid has been added causes but little inconvenience, while expired air containing no more carbonic acid is extremely noxious,

Experiments were conducted in which rabbits were treated with injections of water containing the toxic principle of pulmonary mucus.

The primary effects were dilation of the pupils; slowing of the respiration; paralysis, especially of the lower extremities; rapid diminution of temperature from half a degree to five degrees C.

In larger doses there were more pronounced symptoms: trembling and general convulsions; attitude *recroquevillée;* choleriform diarrhœa, continuing till death ensued, in three or four hours after the injection.

The conclusions of the experimenters are that—

1. The lungs of men, of dogs, and of rabbits in health evolve an extremely energetic poison, which is continuously exhaled with the expired air.

2. It is probable, if not certain, that it is this poisonous agent which makes confined air injurious.

The true prevention of danger is found in efficient ventilation.—*Boston Medical and Surgical Journal.*

MEDICAL SCHOOLS AND STUDY IN THE UNITED STATES.—Professor EMILIO DE ROSSI, of the University of Rome, Italy, and an officer in the Ninth International Medical Congress, read a paper before the Royal Academy of Rome, on his return home from the congress, on "Medical Schools and Special Study in the United States." He speaks, not without some expressions of surprise, of the number of medical institutions in America, and makes special mention of some of the larger and older schools, printing in full the studies in the courses of two of the oldest of the universities in this country. He was particularly surprised to find such great opportunities for special studies in medicine, in the many hospitals, clinics, and polyclinics of the country, referring more particularly to the advantages afforded to students of ophthalmology and otology, he himself being a distinguished otologist. He particularly praises one of the well-known institutions of New York for the study of ophthalmology and otology, and speaks of the great liberality in making the institution what it is. In concluding his paper he calls attention to the large number of the candidates for the doctorate that are graduated by the schools of the country, placing the percentage at 45, which is too high. In some of our schools, he says, the degree is granted too freely; our courses are too few, and too little attention is paid to general and scientific education preliminary to the study of medicine. He speaks well of the activity of the medical men of America, and the great interest that they take in medical matters of all kinds. He thinks that there should be at least one year of university study before the study of medicine is begun, and that the study of special subjects should be compulsory in our schools. As it is, he says, we have accomplished superb results with our methods of medical education.

AN effort is being made in London to secure for foreigners residing in England the right to practice medicine in the United Kingdom.

In the House of Commons, April 9, 1888, Mr. Arnold Morley asked whether registered medical practitioners in the United Kingdom were afforded privileges of practicing in the United States of America, and whether any steps have been taken or were in contemplation by the privy council under section 17 of "The Medical Act, 1886," in the direction of similar privileges being given to legally qualified American practioners who might be

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desirous of practicing medicine in the United Kingdom.

"Sir W. Hart Dyke replied that no statement had been received from the Government of the United States showing the privileges afforded in America to registered medical practitioners of the United Kingdom, nor did he find that any request had been made by the United States Government for the extension of privileges to American medical men in this country,"

It was stated, in reply, that registered medical practitioners of the United Kingdom are afforded all rights and privileges of practicing medicine in the United States on equal terms with graduates of medical schools in the United States of America, and that the same courtesy is shown members of the other learned professions, holding certificates of their qualifications from the United Kingdom, that is shown to residents of the United States under the same circumstances.

SANITARY PLUMBING.—Medical officers of health have consistently and persistently supported the movement now on foot for the reform of plumbers' work. The medical officer of Liverpool (Dr. Taylor) has recently brought the subject prominently before the health committee of the city, and he is, we learn, now taking steps to obtain such support from the architects and plumbers of the locality as will secure the formation of a district council to carry out in Liverpool the examination and registration of plumbers on a national system inaugurated by the Worshipful Plumbers Company, London. The medical officer of Birkenhead (Dr. Vacher), who has evinced an active interest in the movement from the outset, read a paper on Defective Plumbing at the Royal Institution, Liverpool, on Monday, April 16, illustrating it by some of his own sketches of cases coming under his observation.—*The British Medical Journal.*

THE RESEARCH SCHOLARSHIP OF THE BRITISH MEDICAL ASSOCIATION.—Dr. Ralph Stockman has been appointed research scholar of the British Medical Association. Dr. Stockman is assistant to the professor of materia medica in the University of Edinburgh, and received a special training in the modern methods of pharmacological and physiological research in the laboratories of Professors Schiemedeberg and Hoppe-Seyler. He proposes to continue or undertake researches on the following subjects: 1. The chemical changes which menthol, camphor, and similar bodies undergo after absorption; how far these metabolic products affect the organism, and whether they still act as antiseptics. 2. The exact mode of action of the camphor group on the heart and circulation. 3. The pharmacology of a new body which acts like digitalis. 4. The problems connected with the absorption and excretion of glycerine and of fats. 5. On the connection between chemical constitution and physiological action of some alcohols.—*The British Medical Journal.*

THE WOMAN'S MEDICAL COLLEGE held its commencement exercises on April 3. The following is the list of graduates:

Annie Emilie Barlow	**Mary Jeanette Kearsley**
Emma Earle Chenault	**Lelia Latta**
Marie M. Côté, M. E.L.	**Anna M. Lemon**
Agnes Eichelberger	**Ella M. Minnick**
Izillah Ernsberger	**Eliza Roxana Morse**
Helen Charlotte Gilman	**Louise Sedgwick**
Harriette Amanda Howe	**Mary Belle Tuttle**
Jennie E. Jones	**Harriette Florella Wolfe**

HOSPITAL APPOINTMENTS.—*Mercy Hospital.*—W. D. Storer, W. S. Hall, H. B. Carriel.

St. Luke's Hospital.—L. L. Gregory, T. B. Swartz, E. J. Schwandt, J. S. Perekhan.

Michael Reese Hospital.—C. B. Wagner.

Cook County Hospital.—J. B. Herrick, E. J. Brown, H. R. Wittwer, F. J. Hodges, C. W. Burson, M. J. Kersley, T. J. Haines, ——Lewis.

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LASSAR'S OINTMENT FOR SCABIES.—LASSAR claims good results from the use of the following ointment in scabies:

Naphthol, grammes, 5 to 10.
Green soap,
Precipitated chalk,
Washed sulphur,
Lanolin aa, grammes, 25.

Journal Cutaneous and Genito-Urinary Diseases, February, 1888.

THE CHICAGO GARBAGE CREMATORY continues to work well. It seems fully to meet the anticipations of the Health Department of Chicago, and promises to afford the city relief, that was much needed, from the annoyance of garbage that, prior to its erection, had never been satisfactorily disposed of here. Should it, upon further trial, continue to work as well, it is contemplated to erect additional ones for other sections of the city.

LAILLER'S WASH FOR PALPEBRAL ECZEMA.—LAILLER recommends the following wash for cases of palpebral eczema:

Crystallized acetic acid.....2 parts
Glycerine.....50 "
Cherry-laurel water (distilled)200 "

To be painted on the eyelid once a day. The brush should be slightly resistent, and care should be taken in applying the mixture.—*Riforma Medica*, March 22, 1888.

IMPURE ANTIPYRIN.—Professor DUJARDIN-BEAUMETZ calls attention to the fact that in some cases due care is not exercised in the preparation of this drug, a certain proportion of benzine having been detected in some samples that were analyzed. He thinks that this impurity may account for some of the toxic symptoms that have been reported as occurring, after the use of antipyrin, such as eruptions, gastric troubles, and grave cerebral symptoms.

ARSENIC SUBCUTANEOUSLY IN CHOREA.—Make a mixture of equal parts of Fowler's solution and distilled water. Begin by injecting one drop into the subcutaneous cellular tissue, and increase the quantity by one drop a day until eight or ten drops are being injected, when the quantity is reduced one drop a day. If necessary repeat.—*Gazette Médicale de Montreal*, January, 1888.

THE POLYCLINIC IN ROME.—In February the corner-stone of the new Polyclinic to be built in Rome was laid with impressive ceremonies, including an oration by Professor Bacelli. The building will have an area of more than 160,000 square yards, and when finished will be the most thoroughly equipped building of the kind in the world.

POLYPUS OF THE TONSIL.—LUBLINSKI reports a rare case of polypus of the tonsil, which he found on the lower segment of the left tonsil of a patient. It was about 3.2 cm. long, and from 3 to 5 cm. broad, with its base on the back of the tongue. It was removed by means of the scissors.—*Centralbl. für Chirurgie*, No. 8, 1888.

THE GABRIELE BELLION PRIZE of the Académie des Sciences de Paris, will be awarded annually to the one writing the best work on, or making the most useful discovery in, human sanitation or for the advancement of the human race.

Dr. LEOPOLD VON HOLST, for many years one of the editors of the *St. Petersburger Medicinische Wochenschrift*, and one of the leaders of the medical profession in Russia, died recently of pyæmia.

SMALL-POX IN HAVANA.—During the month of January, 1888, 274 persons died of small-pox in Havana, which was a decrease of 98 as compared with December, 1887.

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PROFESSOR KÜSTNER has been called to the University of Dorpat, to take the place of Dr. Wyder, who has taken Runge's former chair in Halle.

DR. HEBRA says: The only active treatment of dermatitis papillaris consists in destruction of the diseased tissue, which is best done with Paquelin thermo-cautery.

THE EMPEROR WILLIAM, of Germany, died of renal colic, according to the *British Medical Journal*. He had been subject to attacks of this malady for several years.

REVUE MÉDICALE PHARMACEUTIQUE is a new journal edited by Dr. Apery, of Constantinople, and published in the French, Turkish, and Greek languages.

DR. B. FISCHER, who accompanied Dr. Koch to Egypt and India, has been appointed Privatdocent for Bacteriology in the University of Kiel.

THE UNIVERSITY OF BOLOGNA, Italy, the oldest in Europe, will celebrate its 800th anniversary on June 12.

A SANITARY convention will be held at Manistee, Mich., under the auspices of the State Board of Health, on Tuesday and Wednesday, June 6 and 7, 1888.

IT has recently been proposed to substitute the Greek letter Delta (Δ) for the present dram sign (ʒ) in prescription-writing.

OBITUARY.

THE DEATH OF PROFESSOR CORNELIUS REA AGNEW.—In the death of Professor Agnew, not alone New York, but the whole medical profession, has sustained a great loss. He was esteemed at home and abroad as a representative medical man. A contemporary truly says of him, he was "beloved by all who knew him, esteemed wherever his name was known, uniting, as few physicians have done, so much learning with so many noble and generous traits of character, so much modesty with such self-sacrifice in the hour of duty, and has left vacant the place in the profession that he has so long honored. Whether in his home, among his patients, in the lecture room, before his colleagues, or in the service of his country, he was the same calm, dignified, learned, charming, Christian gentleman."

THE DEATH OF DR. E. G. LORING.—In the death of Dr. E. G. Loring New York has sustained the loss of another of her most prominent ophthalmologists. He was at one time a partner of Professor C. R. Agnew, and died suddenly of heart disease, just one week after the death of Professor Agnew.

ANNOUNCEMENTS.

ILLINOIS STATE MEDICAL SOCIETY.

The thirty-eighth annual meeting will be held in Rock Island, in the Opera House, beginning on Tuesday, May 15, 1888, at 10 o'clock, a. m.

OFFICERS OF THE SOCIETY.—President: William Oren Ensign, Rutland. First Vice-President: Charles Warrington Earle, Chicago. Second Vice-President: Phillip H. Oyler, Mt. Pulaski. Permanent Secretary: David W. Graham, Chicago. Assistant Secretary: George L. Eyster, Rock Island. Treasurer: Walter Hay, Chicago.

JUDICIAL COUNCIL.—Ephraim Ingals, Chicago; Francis B. Haller, Vandalia; William Hill, Bloomington; whose term expires 1888. Charles C. Hunt, Dixon; A. T. Barnes, Bloomington; L. G. Thompson,

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Lacon; whose term expires 1889. Alphonzo Wetmore, Waterloo; Samuel G. Plummer, Rock Island; Benjamin F. Crummer, Warren; whose term expires 1890.

STANDING COMMITTEES.—Practice of Medicine: Frank Billings, Chicago; G. W. Nesbitt, Sycamore; Adelbert H. Tagert, Chicago. Surgery: W. S. Caldwell, Freeport; Benjamin F. Crummer, Warren; Samuel K. Crawford, Chicago. Obstetrics: Geo. Wheeler Jones, Danville; Charles C. Hunt, Dixon; Catherine Slater, Aurora. Gynæcology: A. Reeves Jackson, Chicago; T. M. Cullimore, Jacksonville; Mary E. Bates, Chicago. Drugs and Medicines: D. S. Booth, Sparta; A. J. C. Saunier, Libertyville; John A. Robison, Chicago. Ophthalmology and Otology: Edward L. Holmes, Seth S. Bishop, Chicago; C. A. Palmer, Princeton. Necrology: Ephraim Ingals, Chicago; John H. Rauch, Springfield; Otho B. Will, Peoria. Publication: David W. Graham, Walter Hay, Chicago; George L. Eyster, Rock Island. Committee of Arrangements: G. Truesdale, Thomas Galt, C. Bernhardi, G. G. Craig, S. C. Plummer, C. C. Carter, Geo. E. Barth, P. Gregg, G. L. Eyster (ex-officio), Rock Island.

SPECIAL COMMITTEES.—Diseases of Children: A. E. Goodwin, Rockford; Mary H. Thompson, Chicago; Washington West, Belleville. Antiseptic Obstetrics: Chas. W. Earle, Chicago. Intubation of Larnyx: Frank E. Waxham, Chicago. The Present Status of Bacteriology in its Relation to Disease: Romaine J. Curtis, Joliet; Frank S. Johnson, Chicago. Pelvic Surgery: Wm. S. Chenoweth, Decatur; Sarah H. Stevenson, Chicago. Venereal Disease: Harold N. Moyer, Isaac N. Danforth, J. J. M. Angear, Chicago. Hypnotics: Daniel R. Brower, Chicago. Compound Fractures: D. A. K. Steele, Chicago. Hernia: David W. Graham, Chicago. Some Topic on Gynæcology: Marie J. Mergler, Chicago. Physiology: Alphonzo Wetmore, Waterloo. Dermatology: Henry J. Reynolds, Chicago. Neurology: Horace Wardner, Anna; J. L. Gray, Chicago. The Exigencies and Excitements During the First Labor: James S. Whitmire, Metamora. Legislation for the Insane: Walter Hay, Chicago; Edgar P. Cook, Mendota; Francis B. Haller, Vandalia. Medical and Sanitary Legislation: B. M. Griffith, Springfield; W. A. Haskell, Alton; John L. White, Bloomington; Albert B. Strong, Chicago. Influence of Appreciable Meteorological and Topographical Conditions on the Prevalence of Acute Diseases: Nathan S. Davis, John H. Hollister, James F. Todd, Chicago; Edgar P. Cook, Mendota; George W. Jones, Danville. Biographical: John H. Hollister, Ephraim Ingals, Chicago; Charles C. Hunt, Dixon; Francis B. Haller, Vandalia; A. M. Powell, Collinsville; Edgar P. Cook, Mendota; John S. Williams, Otterville; George W. Jones, Danville; Thomas F. Worrell, Bloomington; Robert Boal, Peoria; Hugh R. Guthrie, Sparta. Improvement of State and Local Medical Organization, and on Revision of the Constitution: Edgar P. Cook, Mendota; Thomas M. McIlvaine, Peoria; A. E. Goodwin, Rockford. Appointment of Delegates to the American Medical Association for 1888: Charles W. Earle, David W. Graham, Chicago; Geo. W. Jones, Danville.

The committee of arrangements has secured reduction of railroad fare for members and delegates on the conditions specified in circular.

The constitution of the society requires all members and delegates to register and present their credentials before participating in any business of the meeting.

Registration will begin at 9 o'clock a. m., on Tuesday, at the hall. It is desired that as many as can do so will register before the society is called to order.

D. W. GRAHAM,

Permanent Sec'y, 133 Clark St., Chicago.

NOTICE.—Members who wish to go to the meeting of the American Medical

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Association, in Cincinnati, May 8, 1888, as delegates from this society, should send their names to the secretary at once.

C. W. EARLE,
D. W. GRAHAM,
G. W. JONES,
Committee.

PRELIMINARY PROGRAMME OF THE AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS—At the meeting to be held in Washington, September 18, 19, and 20, 1888.

1. Clinical Observations on Diseases of Testicle. By Dr. L. B. Bangs, of New York City, New York.

2. Clinical Observations on Chronic Gonorrhœa, and

3. Two Cases of Cancer of the Seminal Vesicles, with Pathological Specimens. By Dr. J. P. Bryson, of St. Louis, Mo.

4. Operative Treatment of Hypertrophy of the Prostate, and

5. Case of Bowel ending in the Urethra of a child four weeks old; Relief by Operation. By Dr. A. T. Cabot, of Boston, Mass.

6. On the Effects of Rapid Changes of Altitude in an advanced Case of Interstitial Nephritis. By Dr. George Chismore, of San Francisco, Cal.

7. Connection between Masturbation and Stricture. By Dr. S. W. Gross, of Philadelphia, Pa.

8. Operations on the Kidney. By Dr. W. H. Hingston, of Montreal, Canada.

9. Syphiloma of the Vulva. By Dr. J. N. Hyde, of Chicago, Ill.

10. The Curability of Urethral Stricture by Electricity; an Investigation, and

11. The Comparative Value of Supra Pubic and Perineal Drainage in Curable and Incurable Bladder Disease. By Dr. E. L. Keyes, of New York City, N. Y.

12. The Filaria Sanguinis Hominis, in the United States, Especially in its Relationship to Chylocele of the Tunica Vaginalis Testis. By Dr. W. M. Mastin, of Mobile, Ala.

13. A case of Perineal Section for Traumatic Retention; Unusual Condition of the Bladder. By Dr. J. E. Michael, of Baltimore, Md.

14. The Prophylaxis of Syphilis. By Dr. P. A. Morrow, of New York City, N. Y.

15. Unusual Case of Urethral Calculus. By Dr. H. G. Mudd, of St. Louis, Mo.

16. On the Radical Cure of Stricture by Dilating Urethrotomy, and

17. Demonstration of a Perfected Evacuator and an Improvement in the Method of Removal of Débris from the Bladder. By Dr. F. N. Otis, of New York City, N. Y.

18. Pyæmia as a Direct Sequel of Gonorrhœa. By Dr. R. Park, of Buffalo, N. Y.

19. Retrojections in Gonorrhœa. By Dr. E. R. Palmer, of Louisville, Ky.

20. Prostatotomy for Enlarged Prostate at the age of Forty-two. By Dr. Abner Post, of Boston, Mass.

21. A case of Removal of both Testicles for Recurrent Carcinoma, and

22. A Case of Nephrolithiasis Complicated with Hydronephrosis, in which Lumbar Nephrotomy was Performed. By Dr. F. W. Rockwell, of Brooklyn, N. Y.

23. Some Points on the Differential Diagnosis of Bladder and Kidney Affections, with Demonstrations of the Cystoscope and Other Instruments, and

24. On the Physiology of the Bladder. By Dr. Alexander W. Stein, of New York City, N. Y.

25. Local Treatment of Chronic Urethral Discharges. By Dr. F. R. Sturgis, of New York City, N. Y.

26. Some Points on the Etiology of Stricture of the Uretha. By Dr. R. W. Taylor, of New York City, N. Y.

27. Operative Treatment of Hypertrophy of the Prostate, and

28. Spontaneous Fracture of Stone in the Bladder. By Dr. F. S. Watson, of Boston, Mass.

29. The Relation of the Prostate to Chronic Urethal Discharges, and

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The Value of the Tolerance of the Iodides as a Diagnostic of Syphilis, and

30. Urethral Stricture and Enlarged Prostate in their Relation to Vesical Calculus and Calculus Pyelitis, with cases. By Dr. J. William White, of Philadelphia, Pa.

BY INVITED GUESTS.

31. The Prognosis of Stricture, based on thirty years' death record of Stricture at the London Hospital and the practice at St. Peter's Hospital. By Dr. E. Hurry Fenwick, of London, England.

32. The Congenital Anomalies of the External Urethral Orifice. By Dr. C. Kaufmann, Zurich, Switzerland.

R. W. TAYLOR, *Secretary.*

A STATE SANITARY CONVENTION, under the auspices of *The State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania*, will be held at Lewisburg, Penn., on the 17th and 18th days of May.

The Thirty-ninth Annual Meeting of *The American Medical Association* will be held in Cincinnati on Tuesday, May 8, and close on Friday, May 11.

The indications are that the meeting will be a very interesting one.

It is officially announced that the railroads will sell to physicians, and members of their families attending the meeting with them, round-trip tickets for one fare and one-third, as has been customary heretofore.

SUBSCRIPTIONS FOR THE RUSH MONUMENT FUND.—Dr. S. J. JONES, Argyle Building, Chicago, is the representative, for the State of Illinois, on the Committee of the American Medical Association, to solicit contributions towards the erection of a monument in honor of Dr. Rush. Donations of any amount may be sent to Dr. Jones, at the above address, or to Dr. G. H. Rohe, secretary, Baltimore, Md., or to J. M. Toner, Treasurer, Washington, D. C.

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PROFESSOR C. R. AGNEW, M. D.

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The Medical j[illegible]er.

VOLUME LVI. [illegible]R 6

CONSERVATISM IN GYNECOL[illegible]

BY A. REEVES JACKSON, M.D.,*

Professor of Gynecology in the College of [illegible]
Denver, Colorado.

During the past quarter of a century, and especially during the past ten years, no department of medicine has shown greater activity or made greater advancement than that which embraces the abdominal and pelvic surgery of women. Many diseases which formerly baffled the utmost skill of the physician and surgeon, and which doomed the patient to a life of pain and misery or to certain death, are now treated with a highly satisfactory degree of success; and the lives that have been saved and made bearable by modern gynecological methods may be counted by hundreds.

It would be an invidious task to name those who have earned the world's gratitude by the part which they have taken in this noble work, and I shall not attempt it. But when we recall the fact that Sir Spencer Wells has performed over 2,000 ovariotomies; that Lawson Tait has opened the abdominal cavity over 2,000 times for various purposes; that many other operators, at home and abroad, have met their gynecological operations by hundreds

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*Read before the [illegible] Medical Society, May [illegible]

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CONSERVATISM IN GYNÆCOLOGY.

BY. A. REEVES JACKSON, A. M., M. D.,*
Professor of Gynæcology in the College of Physicians and Surgeons, Chicago.

During the past quarter of a century, and especially during the past ten years, no department of medicine has shown greater activity or made greater advancement than that which embraces the abdominal and pelvic surgery of women. Many diseases which formerly baffled the utmost skill of the physician and surgeon, and which doomed the patient to a life of pain and misery or to certain death, are now treated with a highly satisfactory degree of success; and the lives that have been saved and made bearable by modern gynæcological methods may be counted by thousands.

It would be an invidous task to name those who have earned the world's gratitude by the part which they have taken in this noble work, and I shall not attempt it. But when we recall the fact that Sir Spencer Wells has performed over 2,000 ovariotomies; that Lawson Tait has opened the abdominal cavity over 2,000 times for various purposes; that many other operators, at home and abroad, number their gynæcological operations by hundreds upon hundreds, we cannot but be impressed by the great need for this work, and the incalculable benefit to suffering woman that has resulted from it. No words of praise can adequately meet the deserts of these apostles of humanity. But, as an obverse result of the great success which has been achieved in this direction, there has arisen a class of ambitious imitators, who, actuated by more conceit than conscientiousness, more zeal than judgment, are rapidly bringing discredit upon the honest work of others in the estimation of many who cannot, or at least do not, distinguish between the real and the sham, the true and the false. These persons are apparently afflicted with an uncontrollable itching for rapidly-acquired fame, and seem to think that they can achieve what they desire by beginning where their masters left off. With them, gynæcology no longer includes adequate effort for the cure of disease, it only signifies the art of cutting something out. It is not even necessary for their purposes that the organs and tissues invaded by them should be diseased; it is sufficient if only they have been left by their predecessors. In one instance within my knowledge when a spectator at an oöphorectomy suggested a doubt as to the necessity for the mutilation, the operator audaciously pointed out that the ablated organs were already in a state of incipient cystic degeneration—the

*Read before the Illinois State Medical Society May 15.

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proof of the alleged fact consisting in the presence of Graafian follicles in various stages of development.

When a woman has an ovarian cystic tumor rapidly growing, and as certainly as a cancer, though more slowly, urging her towards death; or when she is suffering from the disgusting consequences of a urinary or fecal fistula; or from lacerations of the genitals so extensive as to impair or destroy function; or from various other manifest conditions of the pelvic or other organs attended by detectable alteration of structure, and which surely destroy health, comfort, or life, surgical aid is imperatively demanded and should be promptly rendered. But when operations involving dangers to life, such as laparotomy, are undertaken for the possible relief of vague nervous symptoms, hysteria, epilepsy not clearly of ovarian origin, insanity, or because there *is nothing else to do*, then such operations are improper and should not be made. When a man is nervous or irritable or insane does any one propose castration as a remedy? Would not such operation, although vastly less dangerous than the extirpation of the ovary, be regarded as malpractice? And when a corresponding operation is glibly proposed for a fretful, weak-backed, weak-minded, nervous woman, would not the opinion as to its necessity be greatly modified if the patient were a near relative—a mother, wife, sister, or daughter? And why? Because it is well known that such operations are not always, not even frequently, necessary; that they sometimes kill, and do not by any means generally cure. If any one finds himself in doubt as to the correctness of a conclusion in such a case, or as to his own honesty of purpose, let him take the case home to himself. If this were done there would be a smaller number of uterine appendages removed, a smaller number of hysterectomies performed. But, so long as the reputation of a gynæcologist, as such, is thought to depend upon the number of laparatomies he has done, rather than the number of patients he has cured and saved from mutilation, so long will the meetings of medical societies be enlivened by the presentation of platefuls of preserved ovaries and tubes.

And, in this connection, one cannot fail to be struck with the large percentage of recoveries which follow operations that are naturally dangerous. Whatever the nature of the specimen shown, however great may have been the difficulties of the operation, these latter, says the report, were all overcome, the operation was successful and "the patient doing well." The word "successful" in these cases means, usually, that the patient was not killed during the operation, and has no reference to the effect of the latter upon the condition for which it was done. These reports are sometimes made so soon after an operation that the patient has had no time to die unless from shock, ether-narcosis, or hæmorrhage, and then no report seems necessary. Once, at a meeting of a medical society at which I was present, a fibroid tumor of the uterus was exhibited. The uterus and appendages had been removed by laparatomy a few hours before. The patient was "doing well." Inasmuch as there did not appear to have been any symptoms sufficiently serious to warrant so dangerous an operation, I felt interested in learning the final result, which was that the patient continued to do well until she died six days later. This termination was not reported. An account of the case appeared subsequently in the published transactions of the society, with this heading, substantially, "Successful Removal of a Fibroid Tumor of the Uterus," etc.

This premature reporting of favorable cases (the others are frequently not reported at all) has the effect of misleading inexperienced persons who may feel tempted to repeat what seems to be so simple and beneficial.

It is to be considered, however, that unless such reports were made and speci-

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mens exhibited, the world would not know that this particular doctor had done such an operation; and while it is true that the world does not care for the knowledge, and would not be in any way worse for the lack of it, the doctor looks at it from a different standpoint—he wants his name to go into print. What the medical profession wants and needs from each worker in its ranks is a knowledge of the *results*—immediate and remote—of what he does, and such knowledge is always welcomed.

Compared with this unseemly eagerness to report cases, it is instructive and refreshing to read such a paper as that which was presented at the 12th annual meeting of the American Gynæcological Society, in September last, by Dr. Robert Battey, entitled "Battey's Operation, and its Matured Results." It covered the entire experience of the author, extending over a period of 17 years, and included 54 cases in which recovery took place. Of these, the number in which the patient was cured at once was very small. In the majority the patient passed through various climacteric disturbances, and the time which elapsed between the operation and the disappearance of abnormal symptoms varied from one to three, or even five years, thus showing the utter uselessness of reporting the results of removal of the ovaries within a few days or even months after the operation.

A correspondent of the *British Gynæcological Journal* (Nov. 1887) gave some of the results obtained by the late Professor Schroeder, who performed castration on some neurotic women. "In one case, two years after the operation, the woman's sexual appetite was 'completely dead,' but she was suffering from marked vaginismus. In the second case, one year after the operation, all the old cramps returned. The third case did well for some time, but five years after the operation she began to suffer from fainting fits."

Similarly, no good purpose is subserved by reporting a hysterectomy for cancer until sufficient time has elapsed to show the effect of the operation upon the disease.

Do you know to what extent and for what purposes this indiscriminate laparotomy is proposed and performed? Let me cite a few cases that have come under my own observation, all within less than a year.

About nine months ago a gentleman carried a woman in his arms into my office, and after placing her upon a lounge, said, abruptly, "Doctor, I want to know whether you can cure my wife without removing her ovaries." The question was more easily asked than answered, and I deferred giving an opinion until I had an opportunity of investigating the case. The woman was thirty years of age; she had been married eleven years, and had had two children and one miscarriage, the latter having occurred three years before. She was a well-formed, well-nourished woman of medium height, and had a wholesome visage. Menstruation was regular and painless, the functions of the bladder and rectum were normally performed, although there was a tendency to constipation; appetite fair, usually, but capricious. Physical examination revealed a slightly congested lower segment of the uterus, the cervix being somewhat club-shaped owing to a slight laceration of the os uteri, on the inner side of which was a superficial erosion, of no pathological importance. The ovaries and tubes could not be felt, and there was neither swelling nor tenderness in their neighborhood. The woman was fretful, irritable, and lazy, "Only this and nothing more." She had been under medical treatment for various ailments (which she probably did not have) during the last three or four years, and had spent the latter six months under the care of a gynæcologist in Chicago, who had used the regulation hot douches, glycerine tampons, massage, etc., without perceptible result. When the impatient husband asked whether nothing more, or nothing better, could be done, he was told that the only thing that offered relief was the removal of the ovaries. This suggestion did not meet

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with a favorable reception on the part of either husband or wife, and was therefore declined.

There was no pelvic disease present, and there was no further pelvic treatment. I will not trouble you with the details of what was done as it is not necessary for my purpose. Suffice it to say, that the patient left the city in a few weeks for her home. About two months ago the husband informed me by letter that his wife was pregnant, and still later, that she seemed very well and was able and willing to do all kinds of light work, and to take moderately long walks.

Again, a young woman, 19 years of age, had been suffering occasionally during several years from irritable bladder. She had been treated by a number of physicians with sometimes temporary benefit. Being finally referred to a gynæcological semi-specialist, he informed her that inasmuch as so many remedies had failed to cure her he would advise the removal of the ovaries. She still has them.

In a third case the patient was 22 years old. Menstruation commenced at 12, but had always been scanty and irregular, appearing at intervals of from six weeks to as many months. Her appetite was poor, complexion sallow, and her face affected with acne. She was advised to have her ovaries and tubes extirpated—with what object I cannot imagine unless it was to transfer them to a bottle or plate.

On May 1, her physician, in reply to a letter, wrote me as follows: "The soft rubber stem was retained for three months, which established her menstruation in much better condition than previous to its introduction—that is, as regards the quantity of the flow. I find she is in very good health compared with what she was last year."

Think of it! Women advised to have important organs removed, the mutilation involving dangerous operations, for the cure of a nervous affection of the bladder, for scanty menstruation dependent upon feeble general health, and for laziness!

At a meeting of the New York Pathological Society, held October 12, 1887, Dr. A. P. Dudley related the case of a woman 51 years of age who had ceased menstruation one year before. For several years she had suffered from pain in the region of the spleen, and an exploratory incision of the abdomen was recommended and performed. Nothing wrong was found with the spleen, and it was permitted to remain; but it was discovered that she had two ovaries with corresponding tubes, and although there was nothing abnormal about either of them they were promptly removed. The reason for this is obscure unless it be viewed in connection with the question gravely propounded by the operator at the close of his report, namely, "How much good can be done by the removal of the tubes and ovaries after the menopause?" The operation was done on the day immediately preceding the report, and although sufficient time had not elapsed to determine how much good it had done in this particular instance, it must have been gratifying to all concerned to know that the patient was "doing well." As there are still a good many women living who have passed the menopause, and who are still complete in their organization, there is a wide field from which to cull material that may afford an answer to this remarkable question.

Does not all this justify a remark recently made by Thomas Kieth (*British Medical Journal*), "In abdominal surgery responsibility seems to have become old-fashioned and gone out of date."

Dr. Horatio R. Bigelow presented a paper upon this subject to the Ninth International Medical Congress, in which, speaking of the dangerous tendency to operative measures, he says: "Who can begin to enumerate the number of cases in which the abdomen has been opened for supposed ovarian diseases, when not a trace of anything pathological was discoverable? Who will write the history of the cases in which perfectly healthy ovaries have been removed, as an offending cause, without one

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shadow of improvement in the general condition of the patient? A human being mutilated, deprived of its distinctive characteristics, and rendered miserable! A human life poised between earth and heaven to gratify the bad diagnosis, faulty pathology, or personal conceit of an irresponsible practioner! A human life *sacrificed to ambition upon the operating table!* Do you wonder, can you wonder, in the face of the grinning, horrid, damning facts, some of which are on record, and a host of which hide their ghastliness in dark places, that there should go out throughout the land a cry for conservatism?"

But, while the prevalent fashionable craze in radical gynæcology is laparotomy, there is another which is equally deserving of the bridle and bit. It is the extirpation of the cancerous uterus. The most ghastly chapter in the history of surgery is that which tells the story of the removal of the uterus for cancer. The operation has sacrificed more years of human life needlessly, uselessly, than any other surgical procedure; and it has perhaps never saved a life which was otherwise doomed. Its statistics, favorably distorted as they have been, show worse results, both immediate and remote, than do those of any other effective method of dealing with the disease. The operation has never been justified on the ground that it saved life; but other grounds of justification have been urged which are at least curious and interesting, if nothing else. In the discussion of the subject at the recent International Medical Congress, one of the participants (Dr. Dirner, of Buda-Pesth) held that the operation was a good thing for everybody concerned—for the operator, (whom he praised for his work), for such of the patients as recovered, and for even those who died, for the latter were thus enabled to avoid the painful and disgusting accompaniments of the dreadful malady. Dr. Dirner here struck upon the only firm basis of justifiability, for, if the operation be proper at all, it must be on the ground that it lessens suffering by shortening life. This is legitimate reasoning because it accords with the facts.

Another gentleman,* who had previously published a report of sixty-six operations by American surgeons, with a mortality of nearly 35 per cent., while admitting that such results "would seem to indicate that the operation is an unjustifiable one," excused the unfortunate showing on the ground that many of the operators had had no experience whatever, and others very little in this direction, and *that nothing better therefore should be expected of them!* But, while thus admitting their incompetency he had no word to speak in condemnation of their selfish temerity in thus tampering with the lives of the victims of their ambition. On the contrary, he recommended that, as "practice makes perfect," these men and such as these should go on acquiring experience, because, he added, "Americans have not yet had a fair trial." Here, then, is a new ground of justification —an ethical one—namely, that surgeons ought to learn how to do the operation even though they sacrifice the lives of one-third of their patients in getting the knowledge.

If the soundness of this doctrine were admitted, I fear that a surgeon who felt very eager to remove a uterus might not be over-particular as to the accuracy of the diagnosis. Indeed, as an evidence that this fear is not a fanciful one, I may mention that at a meeting of the Obstetrical Society of New York, held October 4, 1887, Dr. Tuttle cited two cases within his own knowledge in which the uterus had been unnecessarily removed for supposed malignant disease. In one case, in which the patient recovered, the diagnosis of sarcoma was disproved by the microscope; in the other, which terminated fatally, the hæmorrhage was found to have been due to a submucous polypus.

A surgeon who performs a rational operation, however dangerous it may be, having

* Dr. A. Palmer Dudley, *New York Medical Journal*, July 9 and 16, 1887.

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for its object the saving or prolongation of a human life, does a commendable act. But if, after such operation has been repeated hundreds of times, by himself and others equally skillful, and the results have shown it to be useless, or still worse, injurious, he should still persist, he ought not to be surprised at drawing censure upon himself, and that doubts should arise among his brethren as to the purity of his motives, or, at least, as to the correctness of his judgment. There was a time when the extirpation of a cancerous uterus was unquestionably justifiable, because, theoretically it offered a better chance for ultimate recovery than any method of treatment hitherto employed; and its greater immediate mortality as compared with that of other methods was not, alone, a valid objection. But when, after hundreds of trials, it was shown to be not only more fatal, but to be followed by no better, or even worse remote results, then, according to all candid reasoning, it should have been abandoned. But it has not been abandoned, and will not be so long as the honest and thoughtful element in the medical profession is not animated by a more actively conservative spirit than it has yet shown. Thus far it has been content to look on and keep silent. The men who are engaged in this objectionable work are the radicals in the gynæcological ranks. Not very long ago they were slitting up wombs; then they began to sew them up; they advised every woman who had a fibroid in the uterus, however harmless it might be, to have it removed—the tumor, or uterus, or both—and they did it, too, whenever they found a consenting victim.

The evils to which I have called attention are, in my judgment, very great. I fear they are growing. A woman has an inalienable right to all the organs with which she has been endowed. She should only be deprived of any of them when it is clear that through disease or faulty function, *otherwise incurable,* her health is seriously impaired or destroyed, or her life imperiled; and only then when the deprivation reasonably promises relief. To those who, from selfish, reckless, or other improper motives, would remove from a woman any of her peculiar organs, I say, in the name of womanhood, in the name of common honesty, in the name of humanity, hands off!

271 MICHIGAN AVENUE.

REPORT OF A CASE OF ABORTION IN THE THIRD MONTH OF GESTATION, WITH RETENTION OF THE PLACENTA FOR FIVE MONTHS WITHOUT SEPSIS.

BY ELBERT WING, A. M., M. D.,
Demonstrator of Pathology at Chicago Medical College.

One of the physicians in whose practice this case occurred is personally known to the writer, in whose opinion there is no reason to doubt the accuracy of the facts as reported. The history of the case, together with the size and nature of the tumor expelled from the uterus, clearly indicate its nature, and this was confirmed by microscopical examination of a small portion. This portion of the tumor, particularly described later in this report, was handed to me with a request for an examination without a knowledge of the case sufficient to even suggest its nature.

The woman was a patient of Drs. Green and Morse, of Shullsburg, Wisconsin, who furnish the clinical history of the case.

Mrs. M., 35 years old, married, has borne six children, and has had several miscarriages. Until the complications associated with this abortion, her menstruation had been normal. Six months prior to the time at which her last pregnancy began, the menstrual hæmorrhage increased notably in quantity, and at times continued almost during the entire month. She thinks conception occurred at the time when this menorrhagia spontaneously ceased, and her pregnancy was normal up to the third month, during which the abortion occurred and the menorrhagia began again. The patient assigns no cause for the abortion.

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With a view of controlling the uterine hæmorrhage she was given ergot, but the preparation and dosage are not stated. This hæmorrhage continued for five months, when Dr. Green was consulted.

He "put the patient thoroughly under the influence of the fluid extract of ergot," and twenty-four hours later the tumor was expelled. It is described as "four inches long, one and one-half inches thick, in the shape of a roll, and white in color."

It is now three months since the tumor was expelled, and as far as her physicians know the patient is in good health.

The following description of the piece of the tumor given the writer for examination, was made at the time, and is given here as of interest in the absence of one of the entire mass, which latter is not available.

The piece of tissue has an average thickness of ten millimetres and is irregularly circular in outline. It appears as if cut from a semi-cylindrical mass. The larger cut-surface measures thirty-seven millimetres in its greatest, and thirty-four in its least, diameter. The corresponding measurements of the smaller cut-surface are respectively thirty-four and thirty millimetres.

The *cut-surface* presents a fibrous and granular appearance, and is of a pale pink color. This color is made up by a combination of numerous round white spots which vary from one to three millimetres in diameter, and larger areas, irregular in size and outline, which closely resemble hæmorrhagic spots. Around the edge of this surface there is a band of paler tissue which averages three millimetres in width, but is irregular in outline and has not the appearance of an investing membrane.

The *edge* presents many convolutions and sulci which vary in size aud shape. The sulci vary from mere lines to two and three millimetres in depth. The surface of the edge is slightly rough from the presence of very fine, short fibrous threads, and in general appearance it resembles the uterine surface of a compressed and hardened placenta.

The tissue is easily friable, and when broken reveals a fibrous, stringy, and irregular surface. The small white spots in the cut-surface prove to be the ends of white, round fibres or bands which run obliquely from one surface to the other. These bands are quite tough, somewhat elastic and compressible.

Small pieces of the tissues were imbedded in celloidin, and sections cut both parallel with, and perpendicular to, the cut-surface.

The tissue has undergone retrograde changes to such an extent that the nuclei take the staining reagents poorly, and are of all sizes and irregular in outline. The rest of the tissue is an almost structureless granular mass. Partly owing to irregular refraction of the light, and partly to the arrangement of the staining material used, an appearance is presented in some parts of the sections which strongly suggests the arborescent arrangement of the placental villi. This appearance is best seen in sections cut parallel with the cut-surface. In the other sections there are irregular groupings of spaces of varying shape and size, circular and oval, which resemble a section cut through a bunch of vessels of various sizes.

In both sets of sections the rest of the area is made up principally of granular matter which resembles destroyed blood corpuscles.

Charpentier (Wood's Library, 1887, Vol. II, p. 332) says, "These placenta thus retained for a longer or shorter time in the uterus, may: *a*. Be expelled not altered, not putrid. *b*. Altered and putrid. *c*. With symptons of septic fever. *d*. Without such symptoms. *e*. Absorbed. *f*. Remain indefinitely in the uterus." He quotes Cazeaux, who thinks that "the integrity of vascular connection gives them life, and explains the innocuousness of this prolonged retention." According to Charpentier "Schüller has noted retention for 11 weeks; Metz for two and a half

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months; Prost, 103 days; Plasse, 15 weeks; and Reichman, 13 weeks."

It is, of course, a matter of regret that the clinical history of this case is not more fully known, but it is nevertheless thought worthy of record.

3266 COTTAGE GROVE AVENUE.

THE AMERICAN MISTLETOE AS AN OXYTOCIC AND EMMENAGOGUE.

BY J. M. G. CARTER, M.D., Sc.D., Ph.D.
WAUKEGAN, ILLINOIS.

The American mistletoe, *Phoradendron flavescens* (Nutt.), *Viscum flavescens* (Pursh.), belongs to the *Loranthaceæ*, or mistletoe family, of which there are five or six species in the United States. This, and some other species of America, are sometimes called false mistletoe.

The American mistletoe is an evergreen, shrubby plant, one to three feet high, growing as a parasite on the branches of various trees, chiefly on the black gum and red elm. The brittle stems are jointed and much-branched, with a stiff, leathery or parchment-like foliage of a greenish or yellowish-green color. The leaves are thick, firm, and persistent, abovate or oval in shape, somewhat petioled, longer than the spikes in their axils. Exceptionally, only scales appear in place of leaves.

In the Southern States it flowers in April and May. In California, where there are two varieties of this species, it is said to flower in February and March. The flower is fragrant, having the odor of pond-lilies. Notes on the evolution of the bud and natural history of this plant were kindly furnished me by my friend, Dr. J. Schneck, of Mt. Carmel, Illinois, who is one of the most practical botanists in the State. They were published in the *Botanical Gazette* in 1884.

I am not aware of any experiments made to determine the physiological action of this important drug, but it appears, from clinical observations, to have some decided control over the capillary circulation in general, but especially in the neighborhood of the genito-urinary organs. Indirectly, it seems to have some influence over mucous membrane, particularly in the bladder and urethra. But that the effect upon the capillary circulation is general, is shown in part by the fact that both vesical and cerebral inflammations and conjestions are subdued by the drug.

Dr. W. H. Long considers the mistletoe to be a better remedy, as an oxytocic, than ergot, and claims that it acts more promptly and surely; he says it is an excellent remedy in any form of uterine hæmorrhage, especially in post-partum cases. In cases of labor it should be given in the form of fluid extract, the dose being one drachm every twenty minutes. I would prescribe it under the same precautions as ergot. In menorrhagia the fluid extract may be given in drachm doses four to six times a day.

The value of this drug was first brought to my attention by Dr. J. Schneck. His attention was drawn to it by the use made of it by the "old women" in domestic practice. In the southern part of this State, and perhaps in other localities where it grows in abundance, it is freely used in domestic practice in the form of "tea" for girls who have taken cold and are suffering with suppression of the menses. Dr. Schneck's trial of it justified the common practice. He recommended the plant to me, and my experiments with it corroborated his testimony in its favor. The "tea," or decoction, may be used *ad libitum*.

I used it in one case of orchitis, where there was irritable urethra, and was pleased with its effect. I did not succeed in securing a fluid extract of this drug until three years ago. Since then I have used it constantly in cases of irritable urethra, in cystitis, in congestions and inflammations of the urino-genital organs resulting from exposure to cold, and in those cases of dysmenorrhœa and menorrhagia due to some derangement of the local circulation. I have been so well pleased with the results

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following its use that I have seldom thought it necessary to change the treatment. I have tried this remedy in congestive neuralgias of the ovaries and uterus, but the results have not been sufficiently marked to encourage me to recommend the drug in these cases.

EDITORIAL.

AMERICAN MEDICAL ASSOCIATION.

As had been anticipated, the annual meeting of the American Medical Association was, in every way, fully up to the average meetings, and in some respects was one of the best. The attendance was large. The work in the general sessions, embracing the addresses delivered, as well as that of the different sections, proved alike satisfactory to those in attendance. In some of the sections it was more than ordinarily interesting. Without making invidious comparisons yet the results of the experiments of Professor N. Senn, of Milwaukee, in the use of hydrogen gas as a means of diagnosis in penetrating wounds of the abdomen, as reported at the meeting, entitle that report to special mention. If further experience in practice shall verify the results of the experiments made and the conclusions drawn, the work done by Professor Senn will prove a positive addition to our means of diagnosis in an important class of injuries, and will again entitle him to recognition as an investigator.

One of the papers read in the section of medicine, in which much interest was shown, was by Professor V. C. Vaughan, of Ann Arbor, Michigan, on *The Etiology of Typhoid Fever*, in which were given the results of experiments which he had made on dogs with the bacillus found in the water-supply of a family which had suffered from typhoid fever. The bacillus was cultivated and the dogs were inoculated with the cultures, and characteristic symptoms of enteric fever followed, even to perforation of the intestines. If further investigation should reach results coinciding with these, Professor Vaughan will have contributed an etiological fact of even more importance than his discovery of tyrotoxicon in milk and cheese, as a cause of poisoning, for which he was entitled to much credit.

A feature of the exhibits made, which attracted attention and caused manifestations of considerable interest, was the displaying of some of the work of bacteriological laboratories. To a large part of the Association, and of the profession, such work is comparatively unfamiliar, and many were pleased to have an opportunity of witnessing the actual culture of those little enemies of mankind that have in later years commanded so much professional attention.

The display of pharmaceutical preparations at the meeting, as well as of the most recent surgical instruments and apparatus, was probably never exceeded in this country, or any other, unless, perhaps, that at the Ninth International Medical Congress be excepted. It well merited the close inspection it received from a large part of the members in attendance, and gave unmistakable evidence that the allies of the medical profession — the pharmaceutists and the instrument-manufacturers — are keeping fully apace with the rapid advances that are being made in the medical profession.

The selection of Newport, Rhode Island, for the meeting of the Association for next year was commendable for many reasons. For several years its meetings have been held at points so remote from the Northeastern States as to make attendance upon the meetings a matter of great inconvenience for members residing in that section of the country, and consequently the representation has not been large at any of the meetings in recent years. The place of meeting next year will be readily accessible for those resident in most of the Atlantic States.

Again, the matter of social entertainment by the profession, as at St. Louis and Cin-

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cinnati, has been so lavish that, pleasant as it was for the visitors' enjoyment, it is made a burden upon the profession at the place of meeting that should not be continued. The meeting at Newport will afford a favorable opportunity of changing the custom of such entertainment by the profession. The social feature of these annual meetings is not the least important of them, but that may be enjoyed without making the meeting a visitation upon the local profession, as is shown in the custom of the British Medical Association of having an annual dinner, which members may attend or not as they may prefer, and, in case of attendance, where each one pays a fixed price for his entertainment, which is as it should be.

The selection of Newport has also ended what had grown to be a source of embarrassment to the Association in determining its next place of meeting. It has been the custom for a number of years for members of the Association to extend an invitation from the profession of the locality in which they resided to hold the next meeting at that place, and the Association had come to regard it as necessary to accept one of the invitations so extended, and not to feel at liberty to select its own place of meeting, partly because of what had become a custom almost as fixed as a law, that the profession of the place selected would feel it incumbent to entertain the Association at least as well as others had done before. The Association is now in a position where it should ignore past precedents, and select that place of meeting which would seem to serve the interests of the Association best, and it should pay its own expenses attending the meeting. If such a course had been adopted before this, fewer of the meetings would have been held in succession in the Mississippi Valley, and thereby an erroneous and unfortunate impression regarding the motives of the Association would have been avoided. The national character of the Association must be preserved, and to that end the best method is to have the Association select its place of meeting, being guided solely in that choice by the best interests of the Association.

CONTAMINATION BY SEWAGE.

The Illinois State Board of Health has begun an investigation in order to determine how far down the Illinois River the water is contaminated by the sewage which is emptied into it at Chicago.

Every one knows that sooner or later the organic matter in contaminated streams is oxidized and removed and the water becomes as pure as before. But how much exposure to the air is required and how long it takes is a matter upon which there is still great difference of opinion among hygienists.

Many of our readers may know that about three years ago a preliminary study was made by Professor J. H. Long in this direction. Many valuable facts were learned from this study, but much was left untouched; for instance, nothing was done to ascertain how much contamination was received from the towns on the banks, or what was the influence of the various tributaries, whether to increase the contamination or to dilute it.

All these subjects will be studied at this time.

In addition to the chemical investigation by Professor Long a biological study will be made by Dr. Lester Curtis.

A part, at least, of the injurious effects of sewage comes from the process of decomposition.

Sewage which has become thoroughly decomposed is harmless; fresh dishwater and slops are also harmless. The same thing can be said of urine and even of nightsoil. It is only while undergoing decomposition that these substances are poisonous, and this decomposition is always accompanied by germs of putrefaction. An attempt will be made by Dr. Curtis to ascertain the number of germs in the various

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samples of water, and to ascertain as far as possible their nature. These will serve as an index of the unwholesomeness of the water.

The process used is "plate cultures" on neutral peptonized gelatine. The water, when bad, is diluted with boiled distilled water and a measured quantity is added to the gelatine and then spread over the plates. These are then placed in a culture-chamber and examined from time to time. Every precaution is, of course, taken to avoid mixture with other germs by sterilizing the diluting water, the gelatine, the plates, and other apparatus used.

It is hoped that the whole investigation will lead to facts of practical value as well as of scientific interest. The board is to be commended for its enterprise and public spirit in starting the work.

SOCIETY REPORTS.

AMERICAN MEDICAL ASSOCIATION.

GENERAL SESSION.

FIRST DAY—May 8.

Thirty-ninth annual session was held in Cincinnati, Ohio, May 8, 9, 10, and 11.

The Association was called to order by Professor W. W. Dawson, Chairman of the Committee of Arrangements.

Addresses of welcome were delivered by Mayor Amor Smith, and Professor C. G. Comegys, the former recalling the meetings of the Association in Cincinnati, in 1850 and 1867.

At the close of these addresses some miscellaneous business was transacted, and then

Dr. A. Y. P. Garnett, of Washington, D. C., the President of the Association, delivered an address upon The Mission of the American Medical Association. The address reviewed the history of medical education in the United States, and embodied some propositions intended to advance the standard of medical education, and which would practically place the whole matter in the hands of the American Medical Association. The following is a synopsis of the address:

Our annual meetings must not be regarded solely for the purpose of considering the science of medicine either in its theoretical or practical aspect and supplemented by the pleasures of social intercourse. While we have ample cause to be gratified with the rapid progress made by some departments of medicine in this country within the last decade under the direction and stimulus of this Association, we are still confronted by the fact that very little has been effected in the direction of a general reform in the medical schools.

We all know that this subject of medical education and medical license has been an almost endless theme for discussion, coeval, indeed, with the establishment of medical schools in America, and more particularly has it been earnestly and ably considered since the organization of this Association; yet the question still presents itself, What can the American Medical Association do to further raise and promote a higher standard of medical education in the United States, to curtail the number of medical schools?

Permit me to disclaim here any purpose or desire to impugn the motives or loyalty to our profession of these distinguished representatives of our medical colleges. From my standpoint alone do I offer this hypothetical criticism upon their conduct in this regard; and while I cheerfully concede to them the honor and merit of having largely participated in laying the foundation of this Association, and having subsequently sustained its character, influence, and power as an agent for the general welfare of the medical profession in the United States, I can not permit myself to ignore the fact that they have not, collectively and unitedly, co-operated and wielded the power which they indisputably possess

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to advance and elevate our standard of medical education.

While it can not be denied that there are medical colleges in this country unsurpassed by those of Europe in their essential appointments and facilities for the education of medical students, the equally undeniable facts remain that we fall far behind them in the systems of study pursued.

We have waited, and nearly half a century has rolled by in anxious expectation of seeing these educational centres take the initiative in pushing forward this great object, an object which in reality dominated all other considerations at the very birth of this Association. Have those expectations been realized? On the contrary, with a few notable exceptions, they have turned a deaf ear to the repeated suggestions and earnest demands of this body.

That the professions of law and medicine are over-crowded in this country, no man of common observation will deny. The ratio of professional men in the United States to the population exceeds that of any other country in the civilized world, so that any legitimate means of checking this evil which can be devised and carried into practical effect must be hailed by the medical world, as well as the general public, as an inestimable boon.

Inspired by the hope of initiating some practical move in the direction of educational reform, I respectfully submit for your consideration the following suggestions:

Proposition 1. That a standing committee, to be called a committee on legislation, be appointed for each State, Territory, and the District of Columbia, to consist of five members of the medical profession in good standing, three of whom shall have no official connection with any medical school or college, whose duty it shall be to carry out as far as possible the following instructions:

First. That each one of said committees, or a majority thereof, shall attend the sessions of their respective Legislatures, or from time to time as their duties may require, for the purpose of using all honorable means looking to the reduction of the number of medical schools in the United States, and a consequent diminution in the annual number of medical graduates; that as a practical measure to this end they urge the passage of a law requiring that in the future granting of charters for creating medical schools there shall be a clause in every such charter requiring that all schools or colleges thus created shall demand a full term of four years' study before granting a diploma to any student thereof, and that no student shall be admitted to matriculate who has not passed a satisfactory examination, both oral and written, in the ordinary branches of academic study; and further, that any college failing to show a greater number than fifty matriculates annually for three consecutive years shall forfeit its charter and be abolished.

Second. That they use all diligent effort to secure an ordinance creating in each State and Territory where no such board at present exists, and the District of Columbia, a board of medical examiners, which shall have no connection with any medical school, and which shall be required to examine all applicants for license to practice medicine in their respective States, Territories, and the District of Columbia; and that any person who may be detected in practicing any branch of the healing art without a license granted by said board, shall be subject to such penalties as the law may provide. That this committee may be authorized by statute to select and nominate to the Governors of the States, Territories, and the District of Columbia seven competent and learned members of the medical profession to constitute said Board of Examiners, who shall have the exclusive power to issue licenses to practice the art and science of medicine and surgery.

Third. That the chairman of said committees of five be required to submit at each annual meeting of this Association a

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report embracing a full statement of what has been accomplished by each.

Proposition 2. That the faculties of the several medical schools within the limits of the United States be once more urgently requested to call a convention at some central point, for the purpose of consultation and adopting some general and uniform system of medical education more comprehensive and rigid in its requirements, and more in accord with the spirit of the age and the advanced progress of medical science, suggesting a four years' term of study, the requirement of a preliminary education, including some knowledge of the classics.

That any college or school which shall refuse to enter into such an arrangement as may be decided upon by said convention shall be excluded from all connection with the American Medical Association, and its alumni not recognized as members of the regular profession.

I am aware that these suggestions embrace some very radical and seemingly impracticable changes; but as they point, in my judgment, to the right direction, I trust that they may not prove to be seeds sown upon barren soil. Be that as it may, I shall at least enjoy the consciousness of having honestly, conscientiously, and fearlessly met the great and pressing issue of the day within the domain of our profession, and of having executed, to the best of my ability, the most important duty imposed by the responsible position to which you have elevated me.

GENERAL SESSION.

SECOND DAY—May 9.

On the opening of the session the secretary announced the names of the *Nominating Committee* which had been selected.

The *Address in Medicine* was then delivered by Professor Roberts Bartholow, of Philadelphia, Pennsylvania, in which he alluded to the flippant manner in which the secular press too often alludes to the medical profession and its work. In illustration of this he spoke of the manner in which the daily press spoke of the work of the last International Medical Congress held in Washington last year, which, he said, "in some respects was the most important of the series."

He then assigned some of the reasons to which he attributes that habit. He said:

The causes of this state of things are not far to seek. Every one here present must be familiar with them. I purpose only to consider those which have to do with the therapeutic art—the most important.

Not a little of the ignorance, the crudities, the vague theories of the eighteenth century still linger in the nineteenth century near its close. It is yet understood by many that the therapeutic art is based on some *ism* or dogma. "Allopath" and "homœopath" are still bandied about as having vital power, when they were long since relegated to the lumber-room of the past by modern science. We yet hear of "new school" and "old school," as if notions brought out near the close of the last century, compounded of the vagaries of Hahnemann and the mysticism of Mesmer, could still continue guides to practice. The contentions of so-called "schools," the noisy demonstrations of the Thompsonians, and eclectics, and physio-medicals; the rabid water-cure, and the innumerable special cures, have produced in the popular mind a distrust of all systems.

The cry of "new school" has proved the most sympathetic; but the attractive sugar pellets, and tasteless liquids, carry with them their own destruction, for, in the deeper consciousness of men, lies the fatal objection that great results are not to be accomplished by such slender means. Hence, left to its own course, homœopathy has practically died out on the continent. On this side of the ocean it still maintains a certain influence, because of social conditions and prejudices that are only possible in free communities.

The success of such wretched puerilities,

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such inanities as the homœopathic practice consists of, does more to lower the position of the medical profession than any other cause. The one remedy for existing ills, and to put the medical profession in its proper attitude as a scientific body, is to improve the art.

As a teacher of therapeutics for many years, I could not fail to observe that the attainments of the profession in respect to the powers of medicines are not as fully developed as they ought to be. They do not have that familiarity with the physiological powers of drugs which the effective use of remedies demands. It thus happens that the highest precision is not attained. Vague notions take the place of scientific accuracy, when such has been the progress in this department that a considerable degree of certainty should be the rule.

It must be admitted that the acquisition of therapeutical skill has been greatly hampered by the complexity of the materials. The barnacles of a century have been accumulating on the framework, and the new knowledge has been thrust into the crevices of old notions until all is made to appear confused and uncertain.

The subject should be divested of its superfluities. The list of preparations given in the *U. S. Pharmacopœia*—our only official authority—can be greatly curtailed with advantage. Remedies long in use and of comparatively little value are overloaded with formulæ. The preparations of iron given by the *Pharmacopœia* are thirty-eight in number, of mercury twenty-five, of rhubarb fifteen, of aloes as many. One-third of these could perform the duty of all. The botanical and pharmaceutical details are such that to master them would require the whole of the time given to the medical studies. If obtained, such knowledge is of small value to physicians; therefore it should be turned over to the pharmacist, to whom it properly belongs.

After the delivery of the address the secretary of the *Board of Trustees of the Journal Association* read the annual report of the board, in which it was stated that the *Journal* had been promptly issued throughout the year; that it remains under the same editorial management, and that it has its own office of publication in Chicago, Illinois. A report of the receipts and of the expenditures was made, showing that the *Journal* is more than self-sustaining.

The chairman of the *Committee on Dietetics* made the report of the committee, and, on motion, it was ordered that the committee be continued, and that it have power to increase its own membership.

The amendments to the constitution of the Association offered at the last annual meeting were then called up and read. The amendment allowing physicians to become *members by application* was unanimously adopted.

The amendment regarding the *Board of Trustees*, to consist of nine members, was also unanimously adopted.

The third amendment, relative to the superseding of the *Nominating Committee* was read, and, after discussion, it was agreed to print the amendments and to make it the special order for Thursday, at 12 m.

GENERAL SESSION.

THIRD DAY—May 10.

On the assembling of the Association the secretary read the resolutions adopted by the *State Medical Society of Arkansas* relative to *the patronage given to charlatanism by the religious press of our country.*

By vote the Association indorsed the condemnation of the practice as expressed in the resolutions read.

The *report of the Nominating Committee* was then made.

OFFICERS FOR 1889.

President—W. W. Dawson, Cincinnati, Ohio.

First Vice-President—W. L. Schneck, Kansas City, Missouri.

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Second Vice-President—F. Woodbury, Philadelphia, Pennsylvania.

Third Vice-President—H. O. Walker, Detroit, Michigan.

Fourth Vice-President—J. W. Bailey, Georgia.

Treasurer—R. J. Dunglison, Philadelphia, Pennsylvania.

Permanent Secretary—W. B. Atkinson, Philadelphia, Pennsylvania.

Librarian—C. H. A. Kleinschmidt, Washington, D. C.

Next place of meeting, Newport, Rhode Island; time of meeting, first Tuesday in June, 1889.

Chairman of *The Committee of Arrangements*—H. R. Storer, Newport.

To deliver the *Address in Medicine*, Professor William Pepper, Philadelphia, Pennsylvania.

The *Address in Surgery*, Professor P. S. Connor, Cincinnati, Ohio.

The *Address in State Medicine*, Professor W. H. Welch, Baltimore, Maryland.

The nominations made in the report were confirmed by vote.

The *Address in Surgery* was then delivered by Dr. E. M. Moore, of Rochester, New York.

After giving, in general outline, a review of early and modern surgery, and noting prominent points of the progress of surgery in the *United States* during the last half century, he spoke of the influence of the discoveries of Pasteur and Koch, which constitutes the most interesting and valuable part of the address.

The microbal discoveries of Pasteur and Koch and their disciples have placed all our therapeutics on a new basis. No one knows when a real discovery is made how far it will reach. It seems to run like a thread through the woof of all knowledge. How can we measure the scope of a piece of glass ground to a lens? The spectroscope was a mere philosophic toy at first. What now? The analyst of the sun as well as of the blood. No one can measure the possible triumphs of surgery. That which was excellent yesterday must be abandoned to-day.

Who has not dreaded the care of a compound fracture of the thigh? But now we have a report by Professor Mac Ewan of a thousand cases of osteotomy and no bad results. Who a few years since could have accepted the statement that the bone could be cut and crushed, the surface broken and driven into the texture of the bone above and below and yet remain absolutely free from danger of necrosis and ready for union? The operation is essentially subcutaneous. But Dr. Hahn, of Berlin, boldly incises the soft parts and exposes the surface of the tibia under a stream of mercuric solution, regarding this operation as secure as the subcutaneous cut, and as the parts can be seen they are more susceptible of proper management. In all these cases merely the quiet necessary to physiological repair with its antiseptic covering comprises the after treatment. Its simplicity and rapidity of result amazes one.

The report of the *Committee on the Rush Monument* was then read, showing the work done by the committee, and the amount of money received for the fund.

The report of the treasurer and of the librarian were next made.

The hour having arrived for he special order of business, the consideration of the third amendment to the constitution, it was moved and carried that further consideration of the subject be postponed for one year.

Another amendment was offered, to be considered at the next annual meeting—to "Strike out the last clause or paragraph of Section VII," relating to individually affixing names to the constitution and regulations of the Association.

Another amendment was offered for consideration at the next annual meeting, as follows:

There shall be created a Section of Pharmacy and Materia Medica, which shall have its own autonomy in like manner as the Section in Dental and Oral Surgery.

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Reputable members of State pharmaceutical associations shall be eligible as members of the same on presentation of credentials from their State secretary, but shall have no voice in the general sessions of the Association. The Section of Surgery shall hereafter be denominated the Section of Surgery and Gynæcology. There shall be created a Section of Anatomy and Physiology. The Section of Obstetrics and Diseases of Women shall be abolished. The Section of Diseases of Children shall hereafter be denominated the Section of Obstetrics and Pædiatrics. The Section of Dermatology and Syphilography shall hereafter be denominated the Section of Dermatology and Genito-Urinary Diseases. The Section of Medical Jurisprudence shall hereafter be denominated the Section of Mental and Nervous Diseases. The Section of State Medicine shall hereafter be denominated the Section of State Medicine and Medical Jurisprudence. The Section of Practice of Medicine, Materia Medica, and Physiology shall hereafter be denominated the Section of Internal Medicine.

On motion, it was

Resolved, That in future, each delegate or permanent member, shall, when he registers, also record the name of the section, if any, that he will attend, and in which he will cast his vote for section officers.

It was stated that it was offered because it was found that members voted in several sections, thus aiding in the election of officers of more than one section.

It was moved to rescind the action permitting the sections to meet at 11 a. m.

After some discussion, it was adopted.

GENERAL SESSION.

FOURTH DAY—May 11.

On the assembling of the Association the *Address in State Medicine* was delivered by Dr. H. P. Walcott, of Cambridge, Massachusetts, who gave an interesting account of the work of the State Board of Health of Massachusetts, now in the twentieth year of its existence, in which he stated that the board has "a fairly kept record of our vital statistics from the year 1842 to the present time." From the experience of the board in its twenty years of existence, useful lessons in preventive medicine had been learned, and he essayed to picture some of them, embracing the protection of water supplies, and better drainage for large cities.

The difficulties attending legislation for proper sanitary regulations were considered, including questions of quarantine.

Many of our law-makers have discovered, I believe, no other authority for sanitary legislation on the part of the General Government than that which is contained in the section of the Constitution which declares that Congress, among other functions, shall have power "to regulate commerce." There does not appear to be any clearly expressed provision in the above-named document for the appropriation of money to help exterminate contagious pluro-pneumonia in cattle, and yet the Forty-ninth Congress did appropriate $500,000 for that purpose, and wisely, I am sure we shall all say. I read, however, in this same section of the Constitution that Congress shall also have power to provide "for the general welfare of the United States."

In our own day we have seen National, State, and local laws swept away by cholera and yellow fever. Let us hope then that some ingenious law-maker may find in these words a sufficient authority for the expenditure of enough of the public money, at least, to secure some of those thorough investigations of preventable disease which have characterized the work of the Gesundheitsamt in Germany and the Local Government Board in England.

When it can be deliberately stated—as I believe the experience of the last ten years makes it possible for us to state—that improved methods of research, that the knowledge already gained, have made it almost certain that co-ordinated investiga-

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tions properly encouraged and supported by such aid as only a great government can give, would lead to the discovery of the causes of yellow fever and malarial fever in the first place, and in the second, to rational methods of dealing with these most formidable scourges of the land in the way of prevention or of cure; then, I say, it does seem in the highest degree absurd that any form of government should deliberately deprive itself of the sanitary gains which contribute so directly to the preservation of "life, liberty, and the pursuit of happiness."

It has been well said by one of the most eminent of the executive officers of health, Dr. Russell, of Glasgow, that "nothing is more conspicuous than the helplessness of the individual under the conditions of civilized life to secure the physical basis of health."

How can any single individual in a crowded city make any successful effort to improve, or even to ascertain, the quality of the public water supply upon which he is exclusively dependent? What can he do to secure a sufficiently prompt and safe removal of the waste materials of his daily life? How can he analyze the ingeniously sophisticated articles of food or medicine which may represent the ingenious employment of all the scientific skill that selfish capital can purchase? How vain it would be for him to attempt to prevent the crowding of the city, or the contamination of the air which he is obliged to breathe. Lastly, how can he recognize the presence of communicable disease, and recognizing, keep it at a distance?

There is no help but in co-operation on the most extended scale possible, individual, municipal, State, and National. The individual must be compelled to give up his liberty to injure his neighbor. The great city must be restrained from converting the stream that flows past it into a sewer that shall poison the small villages that cluster about its banks lower down in its course. The country farmhouse must no longer, when a case of enteric fever occurs there, be a menace to the water that supplies a thousand city houses. No State should permit its own causes of disease, whatever they are, persons or things, to be transported into another State, nor pollute the common water supply. Lastly, the General Government should take cognizance of those causes of disease which can be controlled by no other power, or which are so general that the responsibility for them is National, or so overwhelming in their ravages that smaller political bodies have lost the power, if not the will, to protect the people.

Voluntary association on the part of persons, towns, States, or Nations even, will never establish a sufficient safeguard when one dishonest or ignorant associate has it in his power to nullify all the effects of a neighbor's spirit of self-sacrifice and restraint.

Epidemic disease is an evil that can not be left to work out its own cure; it widens its circle too rapidly, and the time is long past when any quarantine, using the word in its older sense, would be sufficient to restrain a pestilence within the limits of the district whose sanitary crimes might have fairly deserved some punishment.

How, then, shall we organize for the protection of the public health?

For the individual, that he may not injure his neighbor through his own ignorance or that of his adviser, let the State give him some assurance that the legally used title of physician designates a person sufficiently qualified to give advice for the prevention and cure of disease—and a certainty, also, that the quack who steals the title shall be punished.

Establish, by direct provision of State law, local health authorities for each well-defined unit in our various forms of local government—village, town, city, or county. Place in the hands of these authorities the execution of the laws of the State and all local ordinances and regulations pertaining to the public health, impress upon them the

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duties of watching all those conditions which immediately affect the health of the people: water supply, sewerage, sanitary condition of school-houses and scholars, factories, tenement houses and the markets, periodic inspection of the inhabitants to prevent the neglect of vaccination, house to house inspection at least annually. In brief, they should have all the powers which society assumes for protecting the public health.

To meet the possibility that some districts may not have intelligence enough to appreciate, or that powerful commercial or other interests may interfere with, these laws, there should be a State authority with ample powers.

This would be called upon for the purpose of harmonizing the action of the various local boards, where the interests of various localities were involved. It should have co ordinate power with all local boards in case of communicable diseases, in order that its action may be prompt and salutary. It should be enabled to carry on scientific investigations as to the causes of disease, to suppress noxious and offensive trades, as it will often happen that some great industry will possess in a community an influence sufficient to control the local board of health. This condition did in fact exist in Massachussetts, and no action of our State Board of Health in its earlier years was more heartily commended than that which transformed a town, pestilent and disgusting from some fifty slaughter-houses, into an attractive suburb of Boston. The business of slaughtering and rendering is now, in consequence of the action of the board, carried on in an abattoir entirely without offense.

This authority should also have the supervision of the laws for the prevention of the adulteration of food and drugs.

It should have the general oversight of the public water supplies.

It should have charge of the registration of vital statistics, and of the investigations of the diseases of animals so far as they affect the health of man.

The educational element should be always present in the work of the State and local boards of health; and, as in all other affairs of life, the value of the lesson will stand generally in direct relation to the cost of it. The person who receives the benefit of a sanitary improvement should pay, if able to do so, a part, at least, of the cost, and should never be permitted to lose a sense of the obligation of preventing the spread to his neighbor of unsanitary conditions of his own making.

All the arguments that have been used for the existence of State health authorities are also available, it seems to me, for the creation and support of some organization for the protection of the public health in connection with the General Government. I think that the medical profession is agreed that no power less than that of the National Government will be sufficient to prevent the introduction of disease from abroad, or control its transport from State to State. There is, of course, a question as to what form that central authority should take and how extensive should be its power.

The well-being of the country, to use the language of the Constitution, should imply that we must know all that can be known about those diseases and causes of disease which may affect the whole country.

Although the actual epidemic prevalence of disease of grave and frequently fatal character may be limited to certain districts, still the disturbance of commerce and the ordinary relations of life will extend to large sections of the whole country. Therefore the National health authority should have the power and the means necessary for a thorough investigation of the communicable and epidemic diseases, and of the best means of preventing their spread. These investigations need not be limited to this country; in fact, it is quite evident that several of the most important diseases of this class must be also studied

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outside of the country, yellow fever, for instance.

Reports of the Committees on *Meteorological Conditions*, on *Fœticides* and on *Duties Commonly Exercised by Coroners*.

The Secretary then read the names of the newly-elected

OFFICERS OF SECTIONS.

Practice of Medicine, etc.—F. C. Shattuck, Boston, Massachusetts, Chairman; G. A. Fackler, Cincinnati, Ohio, Secretary.

Surgery and Anatomy.—N. P. Dandridge, Cincinnati, Ohio, Chairman; W. O. Roberts, Louisville, Kentucky, Secretary.

Obstetrics and Diseases of Women.—W. H. Wathen, Louisville, Kentucky, Chairman; A. B. Carpenter, Cleveland, Ohio, Secretary.

State Medicine.—J. Berrien Lindsley, Nashville, Tennessee, Chairman; S. T. Armstrong, U. S. Marine Hospital, New York, Secretary.

Ophthalmology, Otology, and Laryngology.—George E. Frothingham, Ann Arbor, Michigan, Chairman; G. C. Savage, Nashville, Tennessee, Secretary.

Laryngology and Otology.—W. H. Daly, Pittsburg, Pennsylvania, Chairman; E. Fletcher Ingals, Chicago, Illinois, Secretary.

Diseases of Children.—J. A. Larrabee, Louisville, Kentucky, Chairman; C. J. Jennings, Detroit, Michigan, Secretary.

Medical Jurisprudence.—J. G. Kiernan, Chicago, Illinois, Chairman; T. C. Evans, Baltimore, Maryland, Secretary.

Dermatology and Syphilography.—L. Duncan Bulkley, New York, Chairman; W. T. Corlett, Cleveland, Ohio, Secretary.

Oral and Dental Surgery.—F. H. Rehwinkel, Chillicothe, Ohio, Chairman; E. S. Talbot, Chicago, Illinois, Secretary.

The Secretary then stated that the Section on State Medicine recommends the passage of the following resolution by the Association.

Resolved, That the American Medical Association urges upon the House of Representatives of the Congress of the United States the necessity of and importance of the immediate passage of Senate Bill No. 2493—"*To Perfect the Quarantine Service of the United States*"—which bill has passed the Senate and is now pending in the House of Representatives, in order to make provision for protection against the introduction of contagious diseases before the approaching summer.

On motion, this resolution was adopted as the sense of the Association.

The following, for amending the by-laws, viz: "To change the by-law whereby the officers of sections are elected by the sections," was read, and lies over until the next meeting.

The amendment to the constitution offered by Dr. C. Seiler, Pennsylvania, in 1884, and now asked for by the Section on Ophthalmology, was called up and agreed to, and a new *Section on Laryngology and Otology* was created.

The Permanent Secretary read the list of members appointed as delegates abroad, as follows:

R. H. Plummer, San Francisco, California; N. S. Davis, Chicago, Illinois; J. J. Chisolm, Baltimore, Maryland; L. A. Sayre, New York, N. Y.; J. B. Hamilton, Washington, D. C.; V. C. Vaughan, Ann Arbor, Michigan; J. E. Owens, Chicago, Illinois; S. J. Jones, Chicago, Illinois; H. A. Kelly, Philadelphia, Pennsylvania; A. E. Hoadley, Chicago, Illinois; W. H. Myers, Fort Wayne, Indiana; F. E. Waxham, Chicago, Illinois; J. V. Shoemaker, Philadelphia, Pennsylvania; D. A. K. Steele, Chicago, Illinois; Alex. McAlister, Camden, New Jersey; Ephraim Cutter, New York, N. Y.

After a formal vote of thanks to the presiding officers and to the profession and citizens of Cincinnati, who had done so much to make the meeting of the Association so agreeable, it adjourned.

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Proceedings of Sections.

SECTION ON PRACTICAL MEDICINE, MATERIA MEDICA, AND PHYSIOLOGY.

C. W. Van Bibber, Baltimore, Chairman.
N. S. Davis, Jr., Chicago, Secretary.

The first subject considered was "Pneumonia: Etiology, Pathology, and Treatment," with a paper on "The Mechanism of Pneumonia and its Treatment," by C. W. Van Bibber, Baltimore.

It was discussed by Professors James T. Whittaker, Cincinnati, and N. S. Davis, Chicago.

This was followed by a paper on "Treatment of Empyæma," by Wm. C. Dabney, University of Virginia.

And one "On the Hippocratic Operation for Empyæma, with Illustrative Cases," by Frank Woodbury, Philadelphia.

Another was on "The Unity of Tuberculosis," by J. H. Musser, Philadelphia.

"My own Clinical Experience in the Administration of the Iodide of Potassium in the Treatment of Syphilis" was the subject of another paper by Morris H. Henry, New York.

"Diagnosis and Treatment of Diseases of the Stomach," was considered and a paper was read on "Some Practical Remarks on Diagnosis of Diseases of the Stomach," by Dr. W. Pepper, Philadelphia.

"Observations on Nutrition, with especial Reference to the origin of Fat, Urea, and Animal Heat," was the subject of a paper by Henry C. Chapman, Philadelphia.

"Hot air Bath in the Treatment of Rheumatism," by Chas. N. Sheppard, Brooklyn, was another paper read.

"Evolution of the Cystic Kidney," by I. N. Danforth, of Chicago, in which he said:

The causes of cystic or sacculated kidney may be classified as follows:

1. Diathetic causes: (a) excess of saline elements of the urine; (b) tuberculosis; (c) carcinoma.

2. Congenital causes: (a) floating kidney with consequent "twist" of ureter; (b) congenital hydronephrosis; (c) congenital degeneration of elements.

3. Mechanical obstruction consequent upon disease of the pelvic organs.

4. Traumatic causes.

5. Pathological cysts; dermoid cysts; hydatids; cystic metamorphosis.

By far the greater number of cystic or surgical kidney occur during the active period of life, when the peculiar diatheses which lead to them are most likely to manifest themselves, and this is peculiarly true of the first group of cases—those produced by an excess of the saline elements of the urine.

Tuberculous disease of the kidney does not often occur as a primary disease, but whether the deposit be primary or secondary, its behavior is substantially the same. The tubercular deposit is most common in the cortex, and generally each deposit clusters around some arterial twig.

In the adult, carcinoma of the kidney is rarely primary, and secondary manifestations of renal cancer are by no means common. Secondary cancer of the kidney is not generally followed by cystic degeneration. Nevertheless, this does occasionally happen, and in the following manner: Cancerous deposits in the kidney sometimes occur as infiltrations, sometimes as round nodular deposits. In the latter case each nodule is surrounded and isolated by a fibrous capsule, composed of hypertrophied connective tissue. The cancerous nodule is gradually shut off from its blood supply to an extent sufficient to induce early and rapid retrograde changes, fatty or mucoid degeneration, and the solid cancerous nodule becomes transformed into a soft pultaceous mass, or even into a dirty yellow or grayish fluid. This generally finds its way into the pelvis of the kidney and thence into the bladder. It sometimes happens that the first intimation of renal cancer comes from a profuse discharge of purulent or bloody matter per urethra.

Primary cancer of the kidney is a disease peculiar to children "before the fifth

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year." It is almost always of the encephaloid type, and may attain immense proportions. He had seen one case in which the tumor distended the abdomen to an almost incredible degree, while the alimentary canal, the liver, and other abdominal organs were compressed and crowded so as to be hardly recognized. In this case there were numerous cystic cavities, with fluid contents of a dirty gray color.

Cystic kidney produced by congenital causes: Migratory kidney with consequent twist or doubling of ureter.

General congenital cystic degeneration: At rare intervals an infant is born with an enormously distended abdomen, due to the fact that the kidney has been converted into a *congeries of cysts* by a process of general cystic degeneration. They are regarded as a form of cystic degeneration of the malpighian bodies, but occasionally the convoluted tubules appear to be involved.

Cystic disease of the kidney produced by mechanical obstruction consequent upon disease of the pelvic organs; diseases of the bladder which produce thickening of its wall.

He had recently seen a case of double hydronephrosis in a woman of about forty year of age, apparently caused by compression of the ureter by an enlarged and prolapsed uterus. The cervix uteri was hypertrophied, tilted up against the bladder, and fixed in this position by adhesions in such a manner that the ureters were constantly compressed.

Any pelvic disease which is followed by pathological new formations, or the dislocation of the pelvic organs, may produce compression of the ureters and cystic kidney.

The traumatic causes cannot be formally classified, but any injury of the kidney may result in cystic disease. He had seen a short time ago the case of a young man who fell down a rough and precipitous hillside, receiving some injury of the right kidney, which was followed by pain, tenderness, and hæmaturia. These symptoms shortly subsided and the patient regarded himself as quite well, although the kidney remained slightly tender. He had occasional, but not severe, attacks of nephralgia, and four years after the injury he died, after nephrotomy, the kidney being an enormous multiple abscess.

"On Headache from Overlooked Causes in the Naso-pharynx and Ears," by Henry Gradle, Chicago.

"Etiology of Typhoid Fever," by V. C. Vaughan, Ann Arbor, Michigan.

"Oxygen Enemata as a Remedy for Certain Diseases of the Liver and Intestinal Canal," by J. H. Kellogg, Battle Creek, Michigan.

SECTION OF OBSTETRICS AND DISEASES OF WOMEN.

Ely Van de Warker, Syracuse, New York, Chairman.

E. W Cushing, Boston, Massachusetts, Secretary.

The meeting was opened by the President, Dr. Ely van de Warker, of Syracuse, New York, who delivered an address on the subject "How Gynæcology is Taught," in which he discussed the various methods of instruction, and concluded by paying a tribute to American gynæcology, and especially to its founder, Marion Sims.

Dr. Price, of Philadelphia, Pennsylvania, next followed on "Free Nursing as Organized in Philadelphia."

He described the system which had been there adopted of furnishing the indigent with skilled nurses, by which operators were enabled to perform even most difficult operations in the homes of the poor with proper assistance.

This institution was organized two years ago by two charitable ladies of Philadelphia. It is supported by voluntary contributions and such small amounts as the patients are able to contribute. The corps consists of seven well-trained nurses and their assistants. Two maternity nurses attend to the obstetrical part of the work,

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and separate nurses are employed for the care and attendance of contagious diseases.

The excellence of the plan is shown by the astonishing result of only one death in over ninety abdominal sections.

Professor W. W. Jaggard, of Chicago, Illinois, next followed with an essay entitled "The Relation of Endometritis Gravidarum to the Persistent Vomiting of Pregnancy," in which he included the report of a case of hyperemesis gravidarum caused by endometritis. The reader was of the opinion that even in the ordinary text-books the distinction was not sufficiently made between hyperemesis due to pregnancy and pregnancy incidental to the vomiting.

In the case reported, abortion was induced by introducing a bougie between the uterine walls and membranes after all other means for arresting vomiting had proven futile. Eight hours later the ovum came away and the placenta was removed according to Credé's method. The fœtus was of eight months' gestation. The abortion was immediately followed by cessation of the vomiting. That the vomiting was not due to an artificial displacement of the uterus was proven by the fact that it occurred as late as the sixteenth to the eighteenth week.

Professor W. H. Wathen, of Louisville, Kentucky, had seen but one case of truly uncontrollable vomiting. The patient was two or three months pregnant, and could retain absolutely nothing on her stomach. He at once dilated the cervix to the depth of one inch and a half by means of a steel dilator. Dilatation had previously been practiced by the attendant with sponge tents without affording relief. After the dilatation, the nausea and vomiting abated, but abortion occurred a few days later.

Dr. Daniel T. Nelson, of Chicago, narrated cases where vomiting was due to flexion, either of the uterus primarily, or due to the displacement of the ovaries or disease of the adnexa. He said in one case a complicating fibroid was the cause of flexion, and hence of the vomiting.

Drs. Maury, of Memphis, and Marcy, of Boston, participated in the discussion.

Professor Jaggard protested against dilatation of the cervix simply as a means of arresting vomiting, for in a large number of cases it terminates in the premature expulsion of the ovum.

Dr. William Goodell, of Philadelphia, next read an entertaining and humorous paper on the "Nervous Rectum." He described the rectum as being sometimes insane, as it were, whilst the rest of the body enjoys perfect sanity. One variety of this neurosis is the hysterical rectum, the muscles being thus affected, but the sphincters more so than the other set of muscles. A frequent form is spasm of the sphincter, which renders defecation painful, and hence induces costiveness. These victims become easily addicted to opium eating. When the rectum is loaded a pulsating pain is felt. If there be, in addition, some ovarian irritation and enlargement the affection becomes very distressing.

Another form the speaker alluded to as the "jealous" rectum. He gave some very ludicrous instances where the rectum put its veto on any attempts at indulging in social intercourse. One lady was in a perfectly comfortable condition until she put on her bonnet, when this unruly organ would begin to remonstrate audibly and continue to keep up in such a manner that the unfortunate possessor would be compelled to take off her bonnet and make up her mind to stay home. After this everything would again become quiet. Another lady always began to have an evacuation from the bowels as soon as she received a letter from her husband, and was obliged to delay reading it until the rectal demands had been satisfied. A third individual would soil her bed after any violent mental emotion. All these persons were kept prisoners at home and had to abandon social intercourse.

A third form he described as "follicular colitis" or "membranous enteritis." He found this affection so often in hyster-

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ical patients that he looked upon it as a neurosis, just as pruritus, shingles, etc., are nervous skin affections. He found all these forms of rectal trouble as being peculiar to emotional women of high intelligence; none of them belonged to the lower walks of life. The diagnosis between these neurotic troubles of the rectum and disease of the coccyx is readily made by the introduction of the index finger into the rectum and the thumb over the coccy, showing that this appendage is movable.

The treatment depends on the form of the trouble. He regarded that of Weir-Mitchell for nervous prostration as the best—seclusion, forced feeding, massage, and electricity, the latter two equalizing the nervous fluid and stimulating a healthy action of the nerves. As soon as enemata can be borne, they should be administered before bedtime. Suppositories of iodoform act beneficially, and, in case of spasm of the sphincter, stretching of the sphincter ani. Follicular colitis is almost incurable, but may be soothed by means of suppositories of iodoform, antipyrin, etc. Sometimes injections of lime water or carron oil greatly relieve this trouble. He cautioned strictly against the use of opium in any form, as these patients are very apt to become opium eaters. Altogether the best medication consists in the administration of remedies constitutional in their action. His favorite prescription is the pil. sumbul comp.; Bland's pill is an excellent remedy, beginning with one pill three times a day, gradually increased until three are taken after each meal. Occasionally he gave as many as five after each meal. Pills composed of the three valerianates (zinc, iron, and quinine) are of great value, also pills composed of chloride of gold and soda. When malaria is at the bottom of the trouble, Fowler's solution acts well. The bromides are often needed and may be advantageously combined with the bitter tonics, as the tinct. of gentian comp. When the paroxysms are sudden, antipyrin and the hydro-bromate of hyoscine are serviceable. Absolute rest of mind and body secured by absolute seclusion in a darkened room is sometimes indispensable.

A paper was read by Dr. L. H. Dunning, of South Bend, Indiana, on "Double Uterus and Vagina," with the following conclusions:

1. Congenital malformations of the uterus or vagina are more frequent than is usually supposed.

2. Of the different anomalies, uterus bicornis is the most frequent form—over 50 per cent.

3. The fecundity of women thus affected is not materially diminished.

4. As a result, however, difficult labors are more numerous.

5. In all established cases of uterus bicornis pregnancy has thus far occurred.

6. The forms of malformation of the uterus, in which abortion or miscarriage are most apt to occur, are the *uterus didelphys* and *uterus bilocularis*.

7. Both divisions may be pregnant at the same time and in different stages.

8. Disorders of menstruation are very apt to occur.

9. The amount of the menstrual fluid, when normal, is small.

10. Menstruation may occur simultaneously from both uteri, or one may alternate with the other.

11. The disturbances caused by these anomalies show the important part that the uterus plays during female life.

"Abdominal Section in Extra-Uterine Pregnancy," by W. H. Wathen, Louisville, Kentucky.

"The Value of Galvanism as applied by Apostoli in the Treatment of Fibroid Tumors of the Uterus, with Cases," by Franklin H. Martin, Chicago.

Dr. A. B. Carpenter, of Cleveland, Ohio, next described "A New Method for Supplying the Electrolytic Current in Uterine Fibroids." The author spoke of the difficulty of keeping the ordinary physicians' batteries in good running order, and therefore devised a method of supplying the

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electric current at any time desired in the proper strength. He took his current directly from the street, using the electric current as furnished by the Edison light for this purpose. The Brush light is too dangerous, but the Edison system, which furnished an electric intensity of 100–110 bolts, will not prove dangerous, even with the entire strength outside of the rheostat. The author exhibited the working of his apparatus, with the wires attached from the street.

The following papers were presented:

"The Infant Food Problem," by Professor W. B. Atkinson, Philadelphia.

"Puerperal Hæmorrhage," by Mary H. Thompson, Chicago.

"Report of Forty-seven Cases of Alexander's Operation; Results of Observations and Simple Mode of Operating," by J. H. Kellogg, Battle Creek, Michigan.

SECTION ON SURGERY AND ANATOMY.

Donald McLean, Detroit, Michigan, Chairman.

B. A. Watson, Jersey City, New Jersey, Secretary.

Address by the Chairman, "Some Thoughts on Retrospective and Prospective Surgery," Donald McLean, Detroit, Michigan.

"The Appendix Vermiformis; its Functions, Pathological Changes, and Treatment," by Henry Hollingsworth Smith, Philadelphia.

"The Cæcum and Appendix; their Relations in Health and Disease," by Joseph Ransohoff, Cincinnati.

"A Case of Typhilitis with Perforation; Laparotomy; Recovery," by L. S. McMurtry, Danville, Kentucky.

The subject "Intestinal Obstruction in its Surgical Aspects," was discussed and a paper was read.

"Rectal Insufflation with Hydrogen Gas as an Infallible Diagnostic Measure in ascertaining the Existence of Visceral Injury of the Gastro-Intestinal Canal in Penetrating Wounds of the Abdomen, illustrated by Three Experiments," by N. Senn, Milwaukee, Wisconsin.

The paper, a voluminous one, comprises sixty-four experiments, with descriptive remarks and comments. After making experiments on both animals and the human subject, and carefully studying the details of each, Professor Senn expresses himself in the following manner: After a careful study of the subject of rectal insufflation of hydrogen gas in its various aspects, I do not hesitate to recommend its adoption in practice as an infallible diagnostic test in demonstrating the existence of a wound of the gastro-intestinal canal in penetrating wounds of the abdomen, without resorting to an exploratory laparotomy. In conclusion I beg leave to submit for your discussion the following propositions:

1. The entire alimentary canal is permeable to rectal insufflation of air or gas.

2. Inflation of the entire alimentary canal from above downwards through a stomach-tube seldom succeeds, and should therefore only be resorted to in demonstrating the presence of a perforation or wound of the stomach, and for locating other lesions in the organ or its immediate vicinity.

3. The ileo-cæcal valve is rendered incompetent and permeable by rectal insufflation of air or gas under a pressure varying from one-fourth of a pound to two pounds.

4. Air or gas can be forced through the whole alimentary canal from anus to mouth under a pressure varying from one-third of a pound to two pounds and a half.

5. Rectal insufflation of air or gas, to be both safe and effective, must be done very slowly and continually.

6. The safest and most effective rectal insufflator is a rubber balloon large enough to hold sixteen litres of air or gas.

7. Hydrogen gas should be preferred to atmospheric air or other gases for purposes of inflation in all cases where this procedure is indicated.

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8. The resisting power of the intestinal wall is nearly the same throughout the entire length of the canal, and in a normal condition yields to diastaltic force of from eight to twelve pounds of pressure. When rupture takes place it either occurs as a longitudinal laceration of the peritoneum on the convex surface of the bowel, or as multiple ruptures from within outwards at the mesenteric attachment. The former result follows rapid and the latter slow inflation.

9. Hydrogen gas is devoid of toxic properties, non-irritating when brought in contact with living tissues, and is rapidly absorbed from the connective tissue space and all of the large serous cavities.

10. The escape of air or gas through the ileo-cæcal valve from below upwards is always attended by a blowing or gurgling sound, heard most distinctly over the ileo-cæcal region, and by a sudden diminution of pressure.

11. The incompetency of the ileo-cæcal valve is caused by a lateral and longitudinal distension of the cæcum which mechanically separates the margins of the valve.

12. In gunshot or punctured wounds of the gastro-intestinal canal, insufflation of hydrogen gas enables the surgeon to demonstrate positively the existence of the visceral injury without incurring the risks and medico-legal responsibilities incident to an exploratory laparotomy.

"The Surgical Advantages of the Buried Animal Suture and its Adaptability to Special Purposes," was the title of a paper by Henry O. Marcy, Boston.

A paper was also read on "Sarcoma of the Scalp," by Professor P. S. Conner, Cincinnati.

"On the Radical Cure of Varicocele Attended with Redundancy of Scrotum," by Morris H. Henry, New York.

"A New Method of Controlling Hæmorrhage," by C. S. Muscroft, Cincinnati.

"Causes Determining the Localization of Infection; an Experimental Study," by Bayard Holmes, Chicago.

SECTION ON STATE MEDICINE.

H. B. Baker, Lansing, Michigan, Chairman.

S. T. Armstrong, Marine Hospital Service, Secretary.

Address by the Chairman, H. B. Baker.

"Should the National Government Defend our Ports Against the Invasion of the National Enemy, Contagious Diseases?" by Benjamin Lee, Philadelphia, Pennsylvania.

"Uniform Medical Practice, Report by a Committee of the Association," by Perry H. Millard, Chairman.

"Cremation of Garbage," by J. Berrien Lindsley, Nashville, Tennessee.

"House Drainage," by Joseph F. Edwards, Philadelphia, Pennsylvania.

"Personal Prophylaxis Against Malarial Diseases," by Geo. H. Rohe, Baltimore, Maryland.

"Atmospheric Temperature and Intermittent Fever," by Henry B. Baker, Lansing, Michigan.

"Abstract of Laveran's Researches on the Hæmatozoön of Malaria," by S. T. Armstrong, U. S. Marine Hospital Service.

"What Evidence is there for a Malarial Germ," by Samuel N. Nelson, Boston, Massachusetts.

"The School-room a Factor in the Production of Disease," by J. A. Larrabee, Louisville, Kentucky.

"Recent Discoveries and Researches with Regard to a Common Cause of cer tain Infectious Diseases," by C. W. Chancellor, Baltimore, Maryland.

"The Causation of the Autogenous Fevers," by Victor C. Vaughan, Ann Arbor, Michigan.

"Eastern Carolina as a Residence for Tuberculous Patients," by J. M. Baker, Tarboro, North Carolina.

SECTION ON OPHTHALMOLGY, OTOLOGY, AND LARYNGOLOGY.

F. C. Hotz, Chicago, Illinois, Chairman

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John L. Thompson, Indianapolis, Indiana, Secretary.

Address by the Chairman, F. C. Hotz.

"Melanotic Disease of the Conjunctiva and Episcleral Tissue, with Five Illustrations," by Robert Sattler, of Cincinnati.

"The Treatment of Strabismus due to Paralysis or Extreme Over-correction, with Loss of Motion," by A. E. Prince Jacksonville, Illinois.

"Some Practical Suggestions Regarding Certain Anomalies of the Ocular Muscles," by George T. Stevens, of New York.

"Binocular Astigmatism," by H. Culbertson, of Zanesville, Ohio.

"The ¼ Dioptric Cylinder Lens the Most Useful of the List of Cylinders," by J. J. Chisolm, of Baltimore.

"The Different Methods of Adjusting Lenses," by Dudley S. Reynolds, of Louisville.

"The Advantages of Leaving One Eye Open during the After-treatment of Cataract Cases," by J. J. Chisolm, of Baltimore.

Two years before, the subject of light dressings was brought before the section, when Professor Chisolm stated that he would test the proposed method and report the result of his experiments at the next meeting of the Association. Last year at the Chicago meeting he reported to the section on ophthalmology that for twelve months he had abandoned compresses, bandages, dark rooms, and restraint in the after-treatment of his cataract-extraction cases, and that he was both surprised and delighted at the results obtained. The cases as a rule behaved so much better under the adhesive-strip dressing, the eyes were so much less watery, less injected, so much less flinching when exposed to the strong light of day than when dressed by compresses and bandages and kept in bed in dark rooms, that he was forced to recognize the improvement in contrast, and was forced to accept the conclusions that much of the irritation found in eyes when the restraining treatment was used was the direct result of the bandaging and not of the operation.

In his report of cataract-work at the Presbyterian Eye and Ear Charity Hospital of Baltimore City, at which hospital he controls a large amount of clinical material, he gives the result of his further experience in the after-treatment of cataract cases. During the past year in seventy-four cases of simple senile cataract he closed only the eye operated upon, and that with a piece of isinglass plaster one and one-half by one inch in size. When properly adjusted and dried the lids are closed together as if one piece; the canthi are not covered, so that from them the eye-secretions can escape; and eye drops may also be instilled, should they be needed, without disturbing the adhesive plaster dressing. If properly put on this piece of isinglass plaster will remain till removed on the fourth or fifth day. The other eye is left open for the guidance of the patient.

The patient is never operated upon in his bed, but always upon a narrow table of suitable height, placed before a large window. During all the steps of the operation a septic and antiseptic treatment is used. Solutions of the biniodide of mercury, 1 to 20,000, is the germicide employed. When the operation is smoothly done he believes that nine-tenths of the dangers have already been obviated. When the plaster on the newly operated eye is dry, the patient gets down from the operating table and walks to his room, where he may lie down or move about at his pleasure. Having one eye open he can see to eat, dress himself, and converse with friends. No restraints are imposed beyond not using the eye for reading, and keeping in a moderately lighted room and out of the sunlight. The strip of bandage is removed on the fourth or fifth day. One eye having been always open, the covered one has never become sensitive to the light. When it is finally uncovered no smoked glasses are needed, and the eye shows no irritation from the exposure. He says in his paper

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that it matters not how beautiful and acceptable the theory that absolute quiet and rest under restraint must prevent friction and irritation, and consequent inflammation, yet experience will show that exposure does not bring about the train of irritable phenomena which our long-established theory would predict.

In his year's work of 74 simple senile cataract extractions, all of them treated by the closure of one eye only, there had not been the loss of a single eye. In only two was the pupil closed, necessitating in the future a secondary operation for the restoration of sight; and that such a result has and will continue to take place from time to time in the hands of the most careful surgeon who practices all the restraints of bandages and dark rooms. For 25 years he bandaged and confined every cataract patient. He says that for the past two years he has abandoned bandages and restraint, and that he has had better results under the new method of dressing than he ever had before, and that now he has not the courage nor the cruelty to impose the needless and, as he says he now knows it to be, injurious bandages.

He knows that the plan of simple dressings and after-treatment is a revolution. The plan has in individual instances been forced upon the notice of every ophthalmic surgeon by the obstinacy or unruliness of obstreperous patients. Professor Chisolm has been convinced by such incidents that a system of simple after-treatment is best, and must eventually be adopted by ophthalmic surgeons.

In closing he says that if each surgeon would, in alternate cases, use the bandage and restraint with the one, the light dressing and no restraint with the other, and in every other respect by careful operation and antiseptic treatment start the patients alike up to the after-dressing, he would find that all the patients would do so equally well that they would be forced to diminish the annoyances which they have heretofore thought it their duty to impose.

"Some Observation on the Extraction without an Iridectomy and use of the Bandage in the After-treatment," by Geo. E. Frothingham, of Ann Arbor.

"Gummata of the Ciliary Region," by S. C. Ayres, of Cincinnati.

"Some Remarks on Diseases of the Labyrinth," by Franc Dowling, of Cincinnati.

"The Bougie in Catarrhal Inflammations of the Middle Ear," by W. Cheatham, of Louisville.

"Passive Motion in the Diagnosis and Treatment of Middle-Ear Affections, with a New Otoscope (pneumatic)," by S. S. Bishop, of Chicago.

"Ocular Troubles Influenced by Nasal Diseases," by L. H. Taylor, of Wilkesbarre, Pennsylvania.

"Reflex Nasal Cough, with Report of Cases," by Max Thorner, of Cincinnati, Ohio.

"Reflex Phenomena in Childhood caused by Rhinitis," by J. A. Stucky, of Lexington.

"Naso-Pharyngeal Fibromata," by E. F. Ingals, of Chicago.

In 1884 he presented to the same section a paper on naso-pharyngeal fibromata in which he reported four cases, two of which had been cured, and two of which had disappeared, so that the result was unknown. In that paper he advocated the extirpation of these growths, when possible, through the natural passages, by means of the galvano-cautery ecraseur, or other methods employed by laryngologists in the destruction of nasal polypi in preference to the formidable operation including removal of the superior maxilla. Dr. Lincoln, of New York, has shown that the operation usually adopted by surgeons gives a mortality of over 25 per centum, while it is not very successful in preventing recurrence, as in only about 14 per centum is it certain that the tumor will not return within a year. By the method which Professor Ingals then recommended, it was shown that the danger to life was very much less, and that the ultimate results

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were much better. In over 50 per centum recurrence had not taken place within twelve months. Recently, one of the cases then reported which had failed to return after the first sitting for completion of the operation, had returned after the lapse of five years with a renewed growth in the same locality. This he removed by means of the galvano-cautery ecraseur. The operation was done after the parts had been anæsthetized by cocaine, and was completely successful in removing all the tumor, which consisted of three lobules attached by a base about half an inch in diameter at the vault of the pharynx and posterior naris of the left side. The tumor removed five years ago had the appearance of being composed entirely of fibrous tissue. Of the tumor recently removed, the smaller lobules, which measured about five-eighths of an inch in diameter, proved upon microscopical examination to be fibro-cellular in character, about one-half fibrous; and the largest, which measured about one by two inches in diameter, seemed also fibro-cellular, about three-quarters fibrous. He also presented the history of another somewhat similar case in which a tumor in the nasal cavity was removed by the combined means of electrolysis and the galvano-cautery snare. Details were very fully given, for which space cannot be found in this abstract.

Dr. Robert Tilley, of Chicago, Illinois, reported a case of congenital atrophy of the cilia and supercilia, associated with atrophy of all the nails of both fingers and toes. The subject of the report was a girl of seventeen years. The cilia, especially of the lower lids, were absent, and the supercilia consisted of short, stubby hairs averaging about one-eighth of an inch in length, and presenting the appearance of having been burnt off. There was not a single nail on either fingers or toes but exhibited similar signs of imperfect development. They gave no signs of change of color, nor had they lost any of the usual lustre of a normal nail. They were all remarkably thin, and each nail exhibited from one to three depressions on the anterior part of the nail. There was no projecting free border to any of the nails. The cilia and supercilia, both in the shaft and root, were atrophied, and some of the longer ones clearly exhibited partial breaks in the shaft, which probably accounted for the burnt-off appearance. The girl claimed that the cilia and supercilia, as well as the nails of her father and two brothers, were just like hers. This was found by Dr. Tilley to be true relative to a younger brother, but the father and the older brother could not be seen.

"Tubercular Laryngitis," by D. E. Welsh, of Grand Rapids, Michigan.

"The Tonsils as a Cause of Naso-Pharyngeal and Aural Disorders," by H. Gradle, of Chicago.

"A Case of Atrophy of the Supercilia and Cilia Associated with Atrophy of all the Finger Nails," by Robert Tilley, of Chicago.

"Tobacco Amblyopia," by A. R. Baker, of Cleveland, Ohio.

"Fatty Tumors of the Orbit," by Jas. H. Buckner, of Cincinnati.

SECTION ON DISEASES OF CHILDREN.

Professor F. E. Waxham, Chicago, Illinois, Chairman.

Dr. W. B. Lawrence, Batesville, Arkansas, Secretary.

"Infant Feeding: I, Foods for Prematurely Born Children; II, Mixed Diet; III, Artificial Foods; IV, Feeding in Acute Disease," by C. W. Earle, Chicago, Illinois.

He presented, by way of introduction, a résumé of Baginsky's recent work on Diseases of Children, and said:

The greatest mortality, in all climes and among all nations is due to the lack of mother's milk. In Berlin, one-half of all children born out of wedlock die within six months, and during the summer months a very great number of all children succumb to errors of diet.

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Hence the most important question is infant diet. A division may be made of infant foods into two groups.

Next to mother's milk comes the wet-nurse.

In the first group are enumerated:

Cow's milk, peptogenized milk, condensed milk, cream mixtures, and Liebig's foods.

In group two are found the prepared foods.

The difference between mother's milk and cow's milk is given in general terms as follows: The water is about equal, casein, albumen, salts, and butter a greater, and of sugar a smaller, quantity in cow's milk.

This analysis as regards the fats does not agree with the usual analysis. He also says that coagulation and fermentation arise sooner in cow's than in mother's milk. Out of cow's milk it is impossible to manufacture a substitute which in every essential is equivalent to mother's milk. The greatest difficulty is to obtain good cow's milk, and this is why condensed milk is frequently the best substitute which can be provided. Cow's milk if given to babies should not be administered raw, but boiled long and thoroughly to destroy bacteria. Germs of tuberculosis can be effectually destroyed if they exist in cow's milk by thorough boiling. Soxhlet's cooking apparatus is spoken of as the best and safest to use for the purpose of destroying the germs found in milk. By the use of this process cow's milk is much better as a child's food than we have formerly thought. Cow's milk should usually be prepared in proportion of one to three for young children, later in equal parts. Some children at nine months can take clear milk and digest it perfectly. A curious fact developed in the dilution of cow's milk, is that from at first being one to three this proportion is lessened about 15 per cent. during the first two months, and then increased until equal parts of water and cow's milk are used. Two methods of preserving milk are presented. By the first it is condensed with, and by the second without, sugar. The great difficulty in the condensing process is that too much sugar makes it indigestible, and yet if a milk of this kind is diluted so that it can be digested it is then too weak. Baginsky does not regard peptonized foods with great favor. Biedert's cream mixture contains only one per cent. of casein, and agrees excellently well in a large number of cases. Liebig's foods and soups are made from milk, wheat, and malt, but it is believed that the cream mixture mentioned above, when fresh and properly made, is better than the Liebig food. Nestlé's food is spoken of as being the best type of a prepared food. It contains forty per cent. of sugar, five of fat, fifteen of proteid compounds and thirty per cent. of dexterine and starch. It has been noticed that a long continued administration of an artificial food, in some cases at least, brings about a change of blood. The red corpuscles diminish, but can be increased if a wet-nurse or mother's milk is substituted.

Professor Earle said that he agrees with the old author, who said that "Nature does not afford, nor can art supply, a substitute for mother's milk," and he thought that medical men should always try to induce mothers to nurse their babies in suitable cases.

We should explain the dangers which children pass through, particularly during the summer, and state plainly the probabilities that a certain number of them cannot survive upon any artificial food.

His belief that no artificial food can be selected which will furnish a proper nutriment through the hot months to a considerable number of these little people is so firm that he is every year, with greater frequency, suggesting a wet-nurse. A mixed diet is preferable to one wholly artificial—that is, part mother's or nurse's milk, with the remainder supplied from some outside source. One of the first conditions where an artificial food for a baby is demanded is when the child is prematurely born. In some of these cases, the milk secretion of the mother is at once established. But in others several weeks may elapse before the milk secretion is established. The author

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has had charge of three infants born at six and a half months, in which artificial food had to be provided, and which he succeeded in saving by the use of artificial food. Cream is the basis, barley water the menstrum, to which is added a little salt, a little sugar of milk, and a small amount of lime water.

A prematurely born baby should be fed on a small quantity frequently. Sometimes not more than a half teaspoonful, and when not fed from the spoon, let an ordinary ounce bottle be provided with a rubber mouthpiece. For the first few days, perhaps, cracker water, with a small amount of sugar of milk is all that is necessary. Then cream added to a little cracker water, or cream and rice water; then cream and barley water, and, if vomiting takes place, a small amount of lime water should be added. If from any reason the cream does not agree with the baby, condensed milk with barley water, a little salt, and possibly the addition of a little lime water. By varying the amount of cream, using either barley water or rice water as the diluent, adding a little sugar of milk and a few grains of salt, and sometimes a little condensed milk, if the cream disagrees with the infant, one is able to carry along these puny children until such time as the milk secretion is established.

Speaking of the fermentation of milk, he said: Fermentation of milk occurs only in consequence of the introduction into it of micro-organisms. If the milk be received by a sterilized tube into a sterilized receptacle directly from the udder of the cow, it will not ferment, nor become acid, though kept indefinitely. It can be sterilized by heating to 70° for an hour, but in order to to kill the spores it is necessary to repeat the process for an hour each day for four or five days. Heating to 100° by a current of steam for one hour will sterilize it completely, but boiling coagulates the albumen and to some extent changes the milk sugar. The first process in the fermentation of milk is due to the action of a bacillus, and consists in the conversion of the milk sugar into lactic acid. This process ceases after a small quantity of acid is formed; but if the acid be neutralized by chalk, the fermentation will go on until the milk sugar is all decomposed. By the change of reaction of the milk the casein is coagulated. This coagulation is said to be due to the action of the acid and not directly to that of the bacillus. When the milk sugar is converted into lactic acid, another bacillus —bacillus subtilis—attacks the lactic acid and converts it into butyric acid, with evolution of carbon dioxide and free hydrogen. This bacillus cannot act on milk sugar unless it is first converted into lactic acid.

Under exceptional circumstances there is formed in milk a substance first discovered by Professor Vaughan, of Ann Arbor, and named by him "tyrotoxicon" (cheese poison). This is a crystalline nitrogenous substance, and is supposed to be a ptomaine. When taken, it produces pain at the base of the brain, vomiting, and purging. Professor Vaughan believes this to be the cause of cholera infantum. Tyrotoxicon is formed spontaneously in milk after some months; but it will be produced very quickly if some milk in which it has been formed be added to fresh milk. Its formation seems to be connected with the butyric acid fermentation.

Dr. I. N. Love, of St. Louis, Missouri, read a paper entitled "Membranous Croup and Diphtheria; are they Identical?" in which he maintained the position that membranous croup and diphtheria are identical.

He said that whether the membrane, as in the so-called true croup, be a fibrinous exudation, superficial and easily stripped from the surface, leaving a smooth mucous surface only robbed of its epithelium, while that of diphtheria is more of a coagulation penetrating or poured into the mucous tissues, a necrosis as it were, in which the eschar can be removed only with great difficulty, is not important, it being largely dependent upon the anatomical

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characteristics of the parts involved. ' the disease is due to a special gerr micro-organism is admitted, and the re nition of this pathological point in treatment has made a much more favo showing in the mortality reports. One which is worthy of notice, and which additional argument in favor of the ide of the two diseases, is that the clas treatment for croup has for years been exhibition of the mild chloride of merc coupled with stimulation, with a view t defibrinating effects. The secretory sy has thus been stimulated, and the effec been to favor the moistening and exf tion of the exudation and to antagonize disposition to constitutional involven

Since the same plan of treatment been applied to general diphtheria the tality has diminished. He claimed by the prompt recognition of the appearance of diphtheria, and the imm ate institution of active interference in way of free purgation with the chloride of mercury, local antiseptics, the continuance of constitutional meas germicides and stimulators of glanc action, the bichloride of mercury, benz of sodium and large quantities of w we can without doubt claim accomp ments that are tangible and positive.

"The Surgical Treatment of Emp ma," by D. A. K. Steele, Chicago, Illi

More than one-half of the cases of pyæma recorded occur during the first cade of life, and more errors of diagr are made in this than in probably any o thoracic affection.

It was his belief that a purulent pleu is due to auto-infection of a more or limited area of the inflamed or dam pleura through the medium of the ger circulation. Other methods of infec are the use of unclean aspirating nee rupture of a bronchus, extension of a se pneumonia, secondary infection from primary foci in some other point of body, tubercular infection, etc.

The exact nature of fluid in the ple

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septic symptoms are developed, free incision with drainage is imperatively demanded.

Aspiration has the disadvantage of leaving a small amount of pus for reabsorption, or which may become an inspissated residuum that will result in a secondary abscess in after life. Surgically considered, it is not as perfect an operation as evacuation by a free incision and the introduction of a large size drainage-tube.

Of 121 cases treated by aspiration alone, twenty-three, or 19 per cent., were cured, six died, and the rest came to some other method of treatment, usually incision.

Incision.—Free incision therefore remains as the method possessing the decided advantage of complete evacuation of the purulent fluid, flakes of lymph, etc., and it moreover permits an exploration of the cavity with the finger or sound, and the breaking down of any septa or bands of adhesion. It permits of subsequent irrigation, if the septic nature of the fluid demands a washing out, and also gives complete drainage.

The technique of the operation is comparatively simple, the diagnosis having been established beyond a doubt by preliminary hypodermic aspiration. The field of operation is prepared in the usual manner for all aseptic operations. The point of selection for free incision and drainage is the posterior border of the axillary line in the sixth or seventh interspace. General anæsthesia is usually not required, although a few whiffs of chloroform in nervous children are of advantage sometimes. But local anæsthesia by means of the ether spray or hypodermic injections of from ten to fifteen drops of a 4 per centum solution of muriate cocaine answers every purpose in alleviating pain. The fold of skin at the site indicated is transfixed on a line with the upper border of the rib and incised for one and a half inches; then the intercostal muscles and pleura are divided, and as pus flows out in a full stream a large sized rubber drainage-tube is inserted and secured by safety pin, or by a button of rubber, flange reflected so as to prevent its intrusion into the pleural cavity. The tube should not be more than three inches long. Irrigation should not be resorted to except in septic empyæma where the fluid is fetid and caseous.

As soon as the tube is introduced it should be covered with sublimated gauze, and the pus should be allowed to flow out upon absorbent cotton or antiseptic gauze, and the dressings changed daily. Strict antiseptic precautions are always necessary, and our greatly improved results and lessened mortality are due to the antiseptic treatment now employed.

Dupuytren operated in fifty cases, with only four recoveries, while L. Emmet Holt reports sixty-three cases operated upon under full antiseptic precautions, with only two deaths. The average duration of the discharge was about six weeks. In children we are usually able to discard the use of tubes in three weeks. When, from the large size of the pleura, effusion occurs in close apposition to the ribs, flattening of the tube during pressure from coughing, or neuralgia due to pressure upon the intercostal nerve, subperiosteal resection of one and one-half inches of the single rib will afford ready relief and better drainage, although it is rarely required in old empyæmas in children. When we have a chronic abscess, discharging through a sinus and shortening the life of the patient by lardaceous degeneration of kidneys, liver, or spleen, or from general exhaustion, Estlander's operation of thorocoplasty should always be performed, although its field of usefulness is limited; but, if necessary, a sufficient number of ribs and a lung section of each should be made to permit the complete retraction of the divided ends of the ribs to the bottom of the cavity, thus closing it; otherwise a fistulous tract remains requiring a subsequent operation.

"Hepatic Incompetence in Children," by M. P. Hatfield, Chicago, Illinois.

"Chorea," by Geo. Wheeler Jones, Danville, Illinois.

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"Infant Food, or the Care of the Infant," by J. M. Dunham, Columbus, Ohio.

"Tracheotomy in Pseudo-Membranous Laryngitis," by C. G. Jennings, Detroit, Michigan.

"Report on Intubation in Pseudo-Membranous Larnygitis," by F. E. Waxham, Chicago, Illinois.

"Antifebrin as an Antipyretic in the Treatment of Febrile Diseases of Children, with a Report of Fifty Cases," by F. J. Parkhurst, Danvers, Illinois.

SECTION ON MEDICAL JURISPRUDENCE.

E. M. Reid, Baltimore, Maryland Chairman.

C. B. Belt, Boston, Massachusetts, Secretary.

Address by the Chairman of the Section, E. M. Reid, Baltimore, Maryland.

"Paralytic States, their Relation to Testamentary Capacity," by E. C. Spitzka, New York.

"Medical Jurisprudence in Relation to Wills," by Richard Gundry, Baltimore, Maryland.

"Fœticide, its Increase, and Inadequacy of Law for its Prevention and Punishment," by H. C. Markham, Independence, Iowa.

"Expert Testimony in Medical Jurisprudence," by Orpheus Everts, College Hill, Ohio.

"Some Points in the Medical Jurisprudence of Insanity," by E. N. Brush, Philadelphia, Pennsylvania.

"Jurisprudence of Insanity," by T. Wright, of Bellefontaine.

"Insanity; Some Points of Medico-Legal Interest," by Philip Zenner, Cincinnati.

"The Influence of Experimental Science upon Law," by Clark Gapen, Chicago, Illinois.

"The Relation of Meconeuropathia, Opium Toxæmia and the Opium Psycho-Neurosis to Law," by C. H. Hughes, St. Louis, Missouri.

Professor Daniel R. Brower, of Chicago,

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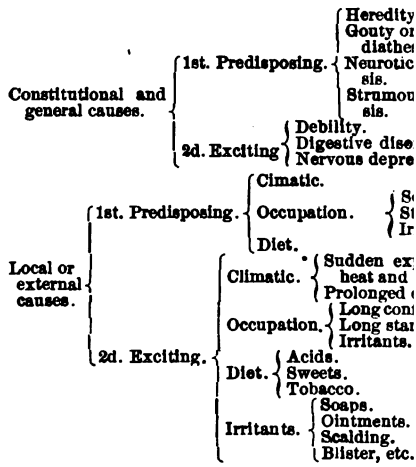
Address of the Chairman, "Sypl
a Non-Venereal Disease."

The discussion on the "Etiolo
Treatment of Eczema" was oper
Dr. Bulkley, who, in the course of
marks, submitted the following table



Drs. Zeisler and Reynolds of Cl
Shoemaker of Philadelphia, Ravo
Rickets of Cincinnati, and Fleisher
Haven, also took part in the discuss
"Nervous Causation of Eczema,"
Chenery, of Boston.

The next paper read was on "A
Study of So-called Prairie Itch, L
man's Itch, etc., with a Consideratio
its Entity," by William T. Corlett,
Cleveland, Ohio, in which, in addi
a general résumé of the subject, te
were reported, and the opinion w
pressed that the disease is really ecz

Dr. ZEISLER opened the discussion
Corlett's paper by saying that the c
the so-called prairie itch was ignor
regard to skin diseases.

Professor REYNOLDS said that his p
in the West had given him opportuni
seeing many cases of this so-called n
ease. He had always found that th
nosis was made by men who were
pecially well posted in dermatolog
the cases of prairie itch he had ev
were typical cases of eczema. The
iarity of the prairie itch is the appe
of contagion, which is thought to

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men three years ago; it was supposed to be the result of a bruise. Then it spread upon both sides and limbs. Has had slight rheumatic attacks at times. Two months is the longest time she has been free from it. Better now than ever before. She bleeds profusely at intervals of one or two months. There is a history of bleeding in the family for some generations. The aunt and a brother have died from hæmorraghes due to slight causes. There is no history of a specific character.

George T. Eliot, M. D., of New York, read a paper on "Tuberculosis Cutis Verrucosa." The paper was particularly interesting and carefully prepared, but does not admit of sufficient condensation for the purposes of this report.

"On the Value of Frequently-Repeated Doses of Arsenic in the Treatment of Bullous Diseases of the Skin, Especially in Children," by L. Duncan Bulkley, New York.

Arsenic is not so complete a specific as its constant use would seem to indicate. The difficulty is in the failure to adjust the remedy to the particular cases.

He reported a number of cases and said in sufficient doses arsenic is a specific in pemphigus. He prefers a solution of the arseniate of potash or soda.

SECTION ON ORAL AND DENTAL SURGERY.

J. Taft, Cincinnati, Ohio, Chairman.

E. S. Talbot, Chicago, Illinois, Secretary.

Address of Chairman, J. Taft.

"Etiology of Irregularities of the Teeth," "Development of the Superior Maxilla in the Idiot, Deaf and Dumb, and Blind and Insane," by Eugene S. Talbot, Chicago, Illinois.

He explained his views regarding the causes of these malformations:

1. Constitutional causes.
2. Local causes.

He dissents from the views of some authors, who designate them as being congenital.

These deformities, he says, are often so prominent that mechanical interference is necessary to improve the appearance and the use of the teeth.

In his paper he considers the pre-natal and post-natal influence of imperfect nutrition, and consequent imperfect development of the jaw, as influencing the growth of teeth and their position.

Professor J. S. Marshall, of Chicago, in discussing Professor Talbot's paper, said his views regarding congenital origin of such defects did not coincide with the views expressed in Professor Talbot's paper, if he understood the author of the paper as he wished to be understood.

He spoke of the effects of intermarriage between peoples of different nations, and, also, in the same families, showing how improvement may be effected or degeneration result, as is exemplified in some of the inferior animals, and he is inclined to consider these facts and conditions as explaining in part some of these deformities.

A paper on "Fractures and Diastasis of the Superior Maxilla and Upper Bones of the Face, treated by the aid of the Interdental Splint, with two cases as illustrations," by Professor John S. Marshall, of Chicago, Illinois, was read, in which he said this class of injuries has elicited so little attention from the general surgeon or oral specialist that some of the most noted works on surgery make no mention of them. He cited two cases which had been treated by him, and gave the method of treatment of each of them—the history and the result in each case, which was satisfactory.

Professor Talbot, in discussing the paper, said Professor Marshall's paper treats of a subject of great interest, one which demands prompt and positive treatment. Great force is required to produce such injury. Other complications, such as shocks, inflammation, and secondary hæmorrhage are liable to ensue on account of the locality. If nature or treatment can overcome these difficulties another serious one presents itself in

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devising means to hold the parts in
after putting them in proper positio
til they shall have united.

On one occasion he had been req
to assist in such a case. A girl abou
years of age was struck on the back
head by a descending elevator, h
being forced to the sill of the bu
She sustained a compound fracture c
superior and inferior maxillary bone
parts were put in their natural positi
teeth being the guide. The jaw
bandaged together in the usual m
The next morning the bandage was c
the bones slightly displaced. Where
dage is used it is not certain that it
main in position. A skull cap made
ton cloth to fit the head as far as the ey
and occipital protuberance will answ
ter. A splint for the inferior maxilla
made of gutta-percha, card-board,
anything that can be molded and fi
the jaws will do well. Having plac
pieces of bone in position and brou
jaws together, so that the teeth c
properly, adhesive strips, cut one i
width, wound and fastened not only
splint and skull cap but also to the
will give good support. The strips
be applied in such manner as t
proper force in the right direction.
or four should be applied. One
strips fastened to the splint, the chee
back of the neck will hold all fir
position.

Such patients can be fed with
through a rubber tube. Should th
be missing or but a few be in posit
clusion would be impossible and the
splint must be used. Adhesive str
then be used in the manner describ

Papers read were upon the "Tre
and Management of the Ten
Teeth," by E. G. Betty, Cincinna
"Dentogeny," by W. C. Brittan,
followed by a paper upon the same
by M. H. Fletcher, Cincinnati.

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CONFERENCE OF STATE BOARDS OF HEALTH.

A conference of State Boards of Health, was held in Cincinnati in May, composed of one or more delegates from each of the State Boards of Health in the United States. Dr. J. N. McCormack, of Bowling Green, Ky., presided, and Dr. C. O. Probst, of Ohio, acted as Secretary.

Among the physicians present were Drs. John D. Jones, N. P. Dandridge, William Carson, of Cincinnati; H. S. Orme, California; R. S. Goodwin, Connecticut; J. H. Rauch, Illinois; S. R. Searight, W. A. Fritsch, S. S. Roots, J. M. Taylor, Indiana; Pinckney Thompson, Kentucky; J. J. N. McCormack, Kentucky; R. W. Llewelyn, Iowa; W. S. Schenk, Kansas; Welch, Kansas; H. B. Baker, Michigan; C. N. Hewitt, Minnesota; C. O. Probst, Ohio; Benjamin Lee, Philadelphia; David Engelman, Pennsylvania; James Evans, South Carolina; J. T. Reeve, Wisconsin; B. O. Reynolds, Wisconsin, and P. H. Bryce, Province of Ontario, Canada.

Dr. McCormack, the President of the association, delivered the annual address in which he mentioned the fact, so well known, that the quarantine facilities of New York are totally inadequate to the demands of the service. The topic for discussion was then read: "Duties of the Conference in urging the erection of isolated hospitals for infectious diseases, and economical and effective methods of placarding diseased houses and quarantining diseased families."

Dr. BRYCE, of Ontario, read a brief paper upon the subject. He urged the importance of the isolation of all cases of diphtheria, scarlatina, and other infectious diseases of that type, and stated that the only means by which the necessary isolation could be obtained was by the establishment and maintenance of hospitals of that nature by townships and municipalities. When proper isolation could be obtained in private residences removal to a hospital was unnecessary, but as a general thing such isolation was not to be had, especially among the poor people of the large cities.

Dr. PROBST believed that isolated hospitals for the treatment of infectious diseases would be a good thing, but he doubted its practicability. Dr. Taylor, of Indiana, coincided with Dr. Bryce as to the results to be obtained by his plan, but doubted its feasibility. It might be practicable in very large cities where hospital conveniences were abundant, but in small towns and sparsely settled districts it would be impracticable, and the effect of removal over long distances dangerous. Dr. Thompson, of Kentucky, supported Dr. Taylor. Dr. Lee, of Philadelphia, agreed with Dr. Bryce in his conclusions as to the practicability of the plan proposed, and so did Dr. Hewitt, of Minnesota. Dr. H. S. Orme, of California, also advocated the plan. The Chair appointed Dr. Orme, Dr. Hewitt, and Dr. Bryce as a committee to investigate the subject and report later.

"Should the National Government assume the control of quarantines at all ports of entry?" "Under which control should quarantine be both in Canada and the Union, under National Government or under State governments?" were questions that occupied the time of the sanitarians at the next session. Dr. Lee, of Philadelphia, advocated strict regulation and control by the Government of all ports on the coasts where it was at all possible that infectious diseases could be imported, and offered the following resolution, which was referred to the regular standing committee:

Resolved, That this Conference, recognizing the failure of local authorities to administer quarantine effectually in a large number of cases, respectfully urges upon the National Government the duty of assuming the control of quarantine at all ports of entry.

Dr. HEWITT said, in reference to the

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resolution, that it was impossible to look to Congress for action in the premises; that no appropriation was available for adequate quarantine protection, and that if anything was to be done it must be done separately by the State Boards of Health.

Dr. RAUCH agreed with Dr. Hewitt as to the inability of obtaining the necessary national legislation for quarantining the coasts. He was, of course, in favor of a national system of protective quarantine from pestilential diseases, but he was opposed to putting such a system, even if obtainable, into the hands of the U. S. Marine Hospital authorities.

Dr. BAKER said he had no confidence in the efficiency or practicability of a national system of coast quarantine. He favored the continuance of action on the part of the State governments, and the obtaining of national aid in emergencies therefor if it were possible. In support of his statement he quoted the well known—to physicians—efficiency of the New Orleans quarantine station, which is under the control of the local authorities, an efficiency which, he said, would be weakened were the national authorities to be placed in control.

The New York quarantine service was notably inefficient, but if the proper efforts were made the service would be brought up to the degree of efficiency of the New Orleans stations. Dr. Baker sarcastically said that he did not believe there was a skilled sanitarian in all the National Marine Hospital service.

Dr. KENNEDY stated that he was not at all impressed with the value of the inland quarantine system, and said that he feared an epidemic of yellow fever and cholera this year, but he did not state the basis of his fears, though he intimated that they were due to lack of an effective system of quarantine.

Dr. BRYCE described the workings of the Canadian quarantine system.

Dr. HEWITT asked the Chair to appoint

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ADDRESS OF WELCOME.

Dr. C. Truesdale, of Rock Island, chairman of the committee of arrangements, delivered an address of welcome on behalf of the local profession.

Professor C. W. Earle, of Chicago, responded in behalf of the visiting members of the Society.

The Secretary read the resignation of the Treasurer, Professor Walter Hay of Chicago.

On motion, the thanks of the Society were tendered to Professor Hay for his very efficient services as Treasurer.

The President, Dr. Ensign, in his address, paid a tribute to those who had preceded him in office and alluded to the large number of deaths that had occurred during the year among members.

He then dealt with the question of reorganization, the plans and modes of holding the annual meetings, etc. He thought the meeting of the State Society, occurring so soon after that of the American Medical Association, detracted largely from its interest and attendance. The address referred to the relation of the State Board of Health to the study and practice of medicine in the State, favoring the limitation of the issue of certificates to practice to those only who could pass a successful examination before a State board of examiners. More thoroughness in all the preliminary branches of education was urged.

COMMITTEE ON PRACTICE OF MEDICINE.

The chairman of the committee on practice of medicine, Professor Frank Billings, of Chicago, said: *Bergeon's treatment of phthisis pulmonalis*, by rectal injections of sulphuretted gas in carbonic acid, received extended notice and discussion at the last meeting of the Society. The expectations regarding the remedy have not been realized. The treatment has been thoroughly tested in the United States, and the almost universal opinion seems to be that it exerts no curative influence on the tubercular process, but does have a palliative effect; diminishing the sputa; relieving the cough, nightsweats, and thoracic pain; improving the appetite, and consequently the strength of the patient. These favorable conditions are only temporary, however, and a time comes when the injections cease to have a good effect.

The aniline treatment of phthisis, recommended by Dr. Kremianski, consists of the internal use of grammes .5 to 1 daily of antifebrin, which is decomposed in the body into aniline, and also of inhalations of oil of aniline in one of the aromatic oils. Dr. Bertalero reports successful results in eight cases. Professor Billings had used the treatment in two cases with absolutely no benefit.

Concerning *treatment of diphtheria by the use of oil of turpentine*, he said a new impetus had recently been given to it. Dr. C. Roesse, of Hamburg, had reported its use in 60 patients, from 1 to 30 years of age. Only five died. Of these, two were one year old, were moribund when first seen, and died within a few hours. Two had the disease in a virulent form and lived only thirty six hours, and the fifth was a poorly nourished boy, 15 years old, who died in five days. The oil of turpentine was given in teaspoonful doses three times a day. As a corrective Dr. Roesse used spiritus ætherus, minims xvi, to each teaspoonful of turpentine oil. He also gave a tablespoonful of a two per cent. solution of sodium salicylate every two hours, had the patient use a gargle of a one per cent. solution of potassium chloras, and applied ice-bags. He noted the following results: (1) The fever and frequency of the pulse diminished rapidly; (2) the subjective difficulties, such as headache and difficulty of swallowing, were soon relieved; (3) the duration of the disease was greatly shortened; (4) the local symptoms improved, in most cases as soon as the first doses had taken effect. The turpentine was used cautiously in anæmic and weak patients, and cases of cardiac troubles. In strong patients the heart's action was carefully noted. The

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patients were given strong bouillon o tea, port wine, and milk. Ice-wate given for thirst. The turpentine was held as soon as the patient was free fever and the local symptoms had impr No signs of turpentine poisoning wer served.

Professor Billings stated that he ha gratifying success with a *solution of rosive sublimate*, one part to 1500 of v on the local symptoms, as a gargle, o a syringe with a spray nozzle, as was suggested to him by professor S. Johns Chicago. The spray may be injected sufficient force against the pharyngeal and tonsils to dislodge the membran yet not wound or irritate the abrade faces.

Of *saccharine in diabetes mellitu* said: This valuable addition to our ria medica renders the treatment of dia much easier. He had used it in three of simple glucosuria and in one ca diabetes mellitus. It fills the place of as a sweetening agent, and also acts as an antiseptic in preventing or reli gaseous distension of the stomach bowels, which are often present in dia mellitus.

ANTIPYRIN.

Every day adds a new and valuabl of this remedy. Professor See first u hypodermically in watery solutions i forms of neuralgia, rheumatism, and painful affections. He advises fr over the injected area to relieve the greeable tension.

Dr. R. Hirish reports the use of th podermic injection of a 50 per ce solution in twelve cases of rheumatism marked success, relieving the pain shortening the course of the disease.

ANTIFEBRIN.

Dr. Dumieville has used antifebr an anodyne in all neuralgias in over e cases with universally good effect. Fi grains in twenty-four hours was the av dose. The effect is felt in from fi

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With regard to diphtheria, he uses the tincture of iron and chlorate of potash once in every four hours, but where it is desirable to make a strong impression upon the local disease he has given that mixture every two hours, and between it minute doses of hydrargyrum bichloride.

Dr. J. W. COWDEN, of Rock Island, said that Dr. Jacobi recommends tincture of iron and chloride of potassium. He, himself, gave it every fifteen minutes in teaspoonful doses to an adult, and to a child two years of age ten drops of tincture of iron. It would allay the pharyngeal inflammation, and takes the place of a gargle.

Another thing was to support children by giving them milk in abundance, and alcohol when it is well borne. He had a little child last winter that took a teaspoonful of whisky every half-hour for forty-eight hours (warm), and would take nothing else in it.

Professor HENRY J. REYNOLDS, of Chicago, asked for some further light in regard to the physiological effects of antipyrin. He said it was an extremely powerful drug and as useful as it is powerful, but thought it capable of doing a great deal of harm, in that in some cases it produced disorder of the kidneys, suppression of the urine, uræmic poisoning, etc.

Dr. T. M. MCILVAINE, of Peoria, had used turpentine in the treatment of diphtheria in much larger doses than those mentioned by any of the previous speakers and had had no toxic effects from the drug.

He had great confidence in bichloride of mercury, used both internally and as a spray. He gives it in combination with lactic acid as a spray.

The conditions under which antipyrin is administered should be more carefully studied. On some patients it acted admirably under certain conditions, and again in the same patients the same dose had produced very unpleasant symptoms. He had in mind the case of a lady who had taken it several times with almost immediate relief, in seven and a half grain doses, repeated in one hour if the first dose was not sufficient. But on another occasion, when the drug was made use of, it brought on ununpleasant symptoms, such as cyanosis, dizziness, trembling, purple lips, and purple finger nails.

Dr. J. S. MILLER, of Peoria, remarked that in the treatment of diphtheria it seemed to him that, as Dr. Truesdale had said, we should adapt our remedies to meet the indications and emergencies of our cases.

He had used antipyrin in one case of typhoid fever, and it produced almost fatal collapse. He had recently treated a case of malarial neuralgia with most excellent effect with antipyrin; a few doses controlled it immediately.

Dr. J. W. MORGAN, of Port Byron, had used the biniodide of mercury in the treatment of diphtheria with gratifying results. It was far better than corrosive sublimate from the fact that it was the most diffusable mercurial preparation we have.

Professor BILLINGS, in closing the discussion, said the paper was not intended to embrace the treatment of diphtheria, phthisis pulmonalis, or anything else, but was simply a résumé of the progress made in medicine during the year.

COMMITTEE ON GYNÆCOLOGY.

Professor A. Reeves Jackson, of Chicago, chairman of this committee, read a paper entitled "A Plea for Conservatism in Gynæcology," which appears in another part of this journal.

Dr. T. M. Cullimore, of Jacksonville, read a paper on the "Menopause and the Pathological Conditions Incident to it."

DISCUSSION.

Dr. O. B. WILL, of Peoria, in opening the discussion, said that so far as he was personally concerned he could indorse every sentiment expressed in Professor Jackson's able paper. He could not agree with Dr. Cullimore, however, that the menopause, or change of life, was pathological. It is a physiological change, and as such, under

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circumstances of good general health, will terminate favorably in each instance.

Professor C.W. EARLE, of Chicago, said, in commendation of Professor Jackson's paper, that it was timely and exceedingly appropriate, and he thought it absolutely necessary that some one should read just exactly such a paper as Professor Jackson's with the hope of eradicating or removing the craze that had seized a large number of physicians for operating.

Dr. C. TRUESDALE, of Rock Island, remarked that he may have misunderstood Dr. Jackson in the beginning of his paper as to whether he commended the work of Lawson Tait and Sir Spencer Wells. If he understood the matter aright, a laparotomy that had for its object the removal of the uterine appendages was an operation that was being greatly abused, and that if there was any man responsible for it, it was Lawson Tait, for he had operated in this way oftener than any other man in the civilized world. He would admit that Tait had been sucessful in his operations, if the reports of percentages of death could be relied upon.

Professor JACKSON, in closing the discussion, said that his allusion to the work of Sir Spencer Wells and Mr. Tait was only intended to show that, whether they were always right or wrong, there is a foundation for the great amount of work they had done and are doing, as he considered them honest, and highly commended them in such a line of work; but he had reference more particularly to the fact that, perhaps, hundreds of lives had been sacrificed through the indiscriminate use of the operation by inexperienced, ambitious imitators, whose desire was to open the abdomen and cut something out.

SECOND DAY—Morning Session.

ANTISEPTIC OBSTETRICS.

The chairman of this committee, Professor C. W. Earle, called attention to the following questions:

First. Does the high rate of mortality still remain in the private practice of obstetrics?

Second. Can the extreme low rate of mortality attained in hospital obstetric practice be obtained in private practice?

Not many years since Mr. Lawson Tait paid a visit to Professor Tarnier at La Maternite. The Professor called the attention of Mr. Tait to a linear chart on the wall of his room, showing the total death-rate of women confined in that hospital from 1792 to 1886. This record is divided into three periods: (1) That of inaction, in which the mortality was from 9.3 to 20 per cent.; (2) the battle of hygiene against infection and contagion, with a mortality of 2.3; (3) the victory of antiseptics, with a mortality of less than 1 per cent., and in the Tarnier pavillion, since June, 1880, with 785 deliveries, not a death has taken place.

About the year 1847 Semmelweiss wrote: "Puerperal fever has existed for two hundred years; it is time that it should disappear."

Concerning puerperal fever in ancient times we know but little. Litzman believes it should be classed among the modern diseases. But in 1864 it raged in the Hotel Dieu, in the Dublin Maternity in 1672, and again in 1774 in Paris and Dublin, and up to the end of that century in Vienna, Berlin, Giessen, Copenhagen, and St. Petersburg. In the last named place, in 1825, one in eleven died; in Lombardy, between 1786 and 1887, not a patient survived.

About 1880, Pasteur believed he saw the microbe of puerperal fever. Condensed from practical use, it has been demonstrated that (1) the air and water of the earth are crowded with organized microscopic beings; (2) they live and multiply at the expense of organized matter; (3) their penetration into the tissues produces disease; (4) the skin, respiratory and digestive passages furnish the channels into the body; (5) a healthy tissue has never produced a microbe; (6) any abrasion of tissue against

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which these microbes come makes it possible for them to enter the system; (7) unless germs are brought from without there can be no infection; (8) many things in regard to their virulence, nature, contagion, age, and development, are yet under consideration. The application of these principles has given the victory to antiseptics in hospitals.

As soon as it is known that confinement of a patient is about to take place, Professor Earle is in the habit of requiring her to take a warm bath, the lower part of her person is to be washed with carbolized water. It is also requested that one or two carbolized vaginal injections shall be taken during the first stage of her labor.

The nurse should subscribe to certain rules of cleanliness. The lying-in chamber should be in a room where no infectious diseases have been treated, and all bed clothing should be prepared by boiling in a given per cent. of carbolized water. Do not select a matress which is filthy for fear that a better and cleaner one will be soiled by blood and other discharges during confinement. Do not provide pieces of old comforters, the sanitary condition of which is problematical. Do not borrow syringe or bed-pan, and assure yourself that those you have are boiled or washed in hot water and thoroughly carbolized.

Committee on Obstetrics.

Dr. George Wheeler Jones, of Danville, the chairman, said:

During the past year very little, if anything, of special importance has occured in this branch of medicine which could be called strictly new.

Cæsarean Section.

The propriety of this operation in a large proportion of cases usually relegated to craniotomy has been presented with arguments of so forcible a character as to demand the attention of every accoucheur. The line of reasoning in favor of the operation of abdominal section is directed largely toward the rights of the child. With the operation, as improved and modified by Saenger, the reduction of mortality to both mother and child has been so great as to make the preference for the abdominal section not a matter of question, but greatly one of choice where there is reason to presume that the child is living, and the slight resulting injuries to the mother in case of her presumable recovery would suggest its extreme propriety, if not preference, where the fœtus is dead.

Conservative Obstetrics.

The tendency of the day and hour is more and more toward conservative obstetrics—place the patient in the best possible condition and let her alone. Crèdé takes such extreme grounds, and goes so far in this matter, that he makes his diagnosis of position, condition, and advancement of case by external palpation and manipulation of the uterus through the walls of the belly, leaving the genitalia entirely alone. That ordinary accoucheurs will ever reach this degree of skill, or that it is best they should, is open to very serious doubt. Indeed the amount of injury possible to both mother and child by careless external manipulation is too great to justify the efforts, except at the hands of those exceptionally skillful.

An adherence to the general rules of which Crèdé is the exponent, along with carefully inducted asepsis, will reduce the proportion of cases of puerperal fever to so small a minimum as to make it relatively scarcely worth considering.

Treatment of Extra-Uterine Pregnancy.

The treatment of extrauterine pregnancy has been placed upon a firm basis from which there will not soon be any departure.

Electricity has robbed it of its terrors and placed it within the cure of readily curable conditions, for which physicians could not be too thankful. Eclampsia has another antagonist in the form of vera-

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trum viride, which is being boldly a
as a specific by several reliable pract
It must be given fearlessly in ful
Its action is that of a vaso-motor
ant. Antipyrin and acetanilid, e
the latter, are growing in favor as
remedies for controlling many of
normal nervous manifestations
nancy. They control reflex irrit
a remarkable manner, and in the
gia of the first stage, where there
vulsive action, Dr. Jones had b
lighted several times with the a
acetanilid. He gives this agent
cases where he formerly gave an
and liked its action much better.

SECOND DAY—Afternoon S

Professor F. S. Johnson, of Chic
of the special committee to report
Present Status of Bacteriology in its
to Disease read a paper on "The
in Syphilis."

Few questions, he said, in medic
received more attention than tha
nature of the poison of syphilis.
this century the most able investiga
given it careful study, but not unti
the last few years has there appear
any real advance in the knowledg
subject.

In 1884 and 1885 Lusgarten
bacillus which he describes as foll
size and shape it very closely resen
tubercle bacillus of Koch, and *lepra*
of Hansen. It is sometimes ber
angle, or is spoon-curved. In col
tion, it is also similar to the tuberc
lus. It does not occur, however, ir
sue spaces, but is found in cells;
are found in the lesions. They a
in all the lesions of syphilis prim
ondary, and tertiary, and are found
syphilitic secretions.

Matterstock found, also, that th
tions best suited to the developme
smegma bacillus were (1) a mixtur
secretion from sebaceous glands an
ated epithelium; (2) equable tem

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its strength and applied daily to be the the most efficient means employed for that purpose.

CHANCROID.

In treating this affection he had used almost nothing in the way of medicine but pure impalpable boracic acid, ordering the patient to wash the parts in soap and water, three or four times a day, before applying the powder. The ulcers treated in this way would heal remarkably well.

Dr. G. W. JONES, of Danville, in opening the discussion, said he emphatically endorsed Dr. Reynolds' treatment of chancroid. He had found nothing so useful as impalpable powder of boracic acid in the treatment of such affections, more particular in women where the vaginal canal could be packed with it.

Dr. J. H. MILLER, of Oconee, said that in addition to boracic acid in gonorrhœa he combined with it the sulpho-carbolate of zinc with good effect.

Dr. MILLER, of Peoria, remarked that he had used boracic acid almost exclusively during the past three or four years in treating chancroids. The ulcers or sores had healed most kindly, and no destructive action had taken place in the cases which formerly gave him so much difficulty and annoyance.

In addition to pain, the patient sometimes complains of a sense of fullness or swelling, of dryness, burning, tickling, or itching, or simply of discomfort in the parts. There is neither fever nor acceleration of the pulse, excepting as a result of anxiety or alarm. Usually there is neither cough nor expectoration, but in certain localities the irritation may excite cough. The tongue may be slightly coated; but usually the appetite is good, and indeed the general condition is that of perfect health.

COMMITTEE ON OPHTHALMOLOGY AND OTOLOGY.

Dr. S. S. Bishop, of Chicago, read a paper on "A New Otoscope (pneumatic) for the Diagnosis and Treatment of Middle ear Affections under Passive Motion," and exhibited the instrument which he had devised for the purpose named. It consists of a small milled cylinder with an ear funnel of the most serviceable pattern at one end, and an eye piece containing a lens, around which revolves an adjustable mirror, at the other end. In the side of the cylinder an aperture admits light to the reflecting surface beneath. At the funnel end of the instrument is a pneumatic chamber provided with a rubber bulb with a flexible tube ending in a diminutive syringe, or a lip piece, as one may prefer.

He said the value of passive motion in the treatment of stiff joints and atrophied tissues is well recognized in general surgery. The application of the same principle to the same conditions in aural surgery is attended with equally beneficial results.

THIRD DAY—May 17.

Professor D. W. Graham, of Chicago, read a paper on "Some Points in Hernia Clinically Considered," in which he advocated the following points:

1. An umbilical or femoral hernia, with pronounced symptoms of strangulation, demands herniotomy without previous resort to taxis.

2. Irreducible omental hernia, with or without symptoms of strangulation, demands operation for the patient's safety.

The following papers were also read:

Professor E. Fletcher Ingals, of Chicago, read a paper on "Chronic Rheumatic Laryngitis, or Chronic Rheumatic Sore Throat," a painful affection of the throat, chronic in character, but varying much in severity from time to time, and attended by only slight physical changes in the parts involved. Usually some part of the larynx is involved, and as in the first case of the kind observed, this organ was always implicated.

The affection is frequently mistaken for a simple neuralgia of the parts, connected with some occult lesion, which the unac-

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customed eye apparently detects in the normal condition of the parts.

Affections similar in some respects have been described as "neuralgia of the pharynx or larnyx." Of the latter condition, Morell McKenzie, in his classic work on "Diseases of the Throat and Nose," says: "It is apparently very rare." McKenzie had met with only nine cases, and the pain was either on the right or left side, and darted from the larynx to the ear. It was usually confined to one side; in all cases it was distinctly intermittent, and in three cases it was relieved by pressure. Eight of the cases recovered under persistent use of quinine and local sedative applications, but all were obstinate.

It attacks all persons with the same impartiality as does rheumatism, but it is more frequent in those who are subject to sudden exposure. The disease presents no anatomical characteristics, but in most cases there are circumscribed spots of slight but changeable conjestion and swelling.

In treatment, Professor INGALS had derived considerable benefit from local sedative or stimulant applications, according to the nature of the case, but had placed great reliance upon the internal remedies which are indicated in rheumatism in other parts. Of these, salicylate of soda, iodide and bromide of potassium, salol, cimicifuga, phytolacca, guiac, oil of wintergreen, and stillingia had all been tried with more or less benefit, but he had derived the best results from the extract of phytolacca, gr. III or IV, three or four times a day, with tonics and gentle laxatives, and the occasional use of iodide of potassium or the bromide of potassium, when the throat symptoms were very annoying. As local applications, he had derived most benefit from the spray of a mixture of morphia 4 grs., carbolic acid and tannic acid ää gr. xxx, glycerine and water ää oz. iv., to be applied once a day, or a weaker solution of the same applied more frequently. In some cases tincture of iodine, a 60-grain solution of nitrate of silver, or a superficial application of the galvano-cautery, has proven useful.

"The External Application of Sulphur in Sciatic Neuralgia," by J. W. Cowden, of Rock Island.

"Possibilities of Volapük, or Universal Language, in Relation to Medical Science," by David Prince, M. D., of Jacksonville.

"Digestive Ferments for Dissolving False (diphtheritic) Membrane," by Dr. A. J. Saunier.

OFFICERS FOR ENSUING YEAR.

President—Charles Warrington Earle, of Chicago.

First Vice-President—P. H. Oyler, of Mt Pulaski.

Second Vice-President—George L. Eyster Rock Island.

Permanent Secretary—D. W. Graham, of Chicago.

Assistant Secretary—T. M. Cullimore, of Jacksonville.

Treasurer—Thomas M. McIlvaine, of Peoria.

Members of Judicial Council (whose term of office expires in 1891)—G. Wheeler Jones, Danville; E. T. Goble, Earlville; Dr. Donaldson, Morrison; A. K. Vanhorn, Jerseyville.

STANDING COMMITTEES.

Practice of Medicine—F. C. Robinson, Wyanette; Elbert Wing, Chicago; J. W. Newcomer, Petersburg.

Surgery—L. L. McArthur, Chicago; J. S. Miller, Peoria; W. W. Barritt, Onarga

Obstetrics—O. B. Will, Peoria; T. J. Pitner, Jacksonville; A. F. Rooney, Quincy; R. H. Engert, Chicago.

Gynæcology—Henry T. Byford, Chicago; C. Truesdale, Rock Island; E. P. Holderness, Chenoa.

Drugs and Medicines—J. L. Hallam, Centralia; W. T. Thackeray, Chicago; F. J. Parkhurst, Danvers.

Ophthalmology and Otology—H. M. Starkey, Chicago; J. F. Keefer, Sterling; A. E. Prince, Jacksonville.

Necrology—E. Ingals, Chicago; J. H. Rauch, Springfield; J. S. Whitmire, Metamora.

Publication—D. W. Graham, Chicago; T. M. McIlvaine, Peoria; J. W. Cullimore, Jacksonville.

Diseases of Children—A. T. Darrah, Bloomington; Catharine Miller, Lincoln.

SPECIAL COMMITTEES.

Physiology—Alfonso Wetmore, Waterloo.

Electricity in Gynæcology—F. H. Martin, Chicago.

Dermatology—R. W. Bishop, Chicago.

Antiseptic Obstetrics—J. B. Davison, Moline.

Bacteriology—Frank Billings, Frank S. Johnson, Chicago.

Legislation for the Insane—Clark Gapen, J. G. Kiernan, Chicago; E. P. Cook, Mendota.

The Neuroses, Functional and Reflex—Geo. Wheeler Jones, Danville.

Surgery of the Joints—A. E. Hoadley, Chicago.

Compound Fractures—D. A. K. Steele, Chicago.

Uterine Hæmorrhage—Thomas Galt, Rock Island.

Diseases of the Alimentary Canal—A. J. Baxter, Astoria.

Medical and Sanitary Legislation—B. M. Griffith, Springfield; W. A. Haskell, Alton; John L. White, Bloomington; Albert B. Strong, Chicago.

Influence of Appreciable Meteorological and Topographical Conditions on the Prevalence of Acute Diseases—Nathan S. Davis, John H. Hollister, James F. Todd, Chicago; Edgar P. Cook, Mendota; Geo. W. Jones, Danville.

Biographical—John H. Hollister, Ephraim Ingals, Chicago; Charles C. Hunt, Dixon; Francis B. Haller, Vandalia; A. M. Powell, Collinsville; Edgar P. Cook, Mendota; John S. Williams, Otterville; George W. Jones, Danville; Robert Boal, Peoria; Hugh R. Guthrie, Sparta; S. C. Plummer, Rock Island.

Improvement of State and Local Medical Organization and on Revision of the Constitution—Edgar P. Cook, Mendota; Thomas M. McIlvaine, Peoria; A. E. Goodwin, Rockford.

Next place of meeting, Jacksonville.

CHICAGO MEDICAL SOCIETY.

STATED MEETING, JANUARY 3, 1888.

The President, W. T. Belfield, in the chair.

Dr. Henry Gradle read a paper on "Morbid Nasal Irritability," which, he said, is a condition of morbid sensibility of the nasal surfaces associated with hypertrophy of the submucous cavernous tissue. The condition is confounded in text-books with chronic catarrh. The best account of it is in Mackenzie's article on neuroses of the nose, in the "Reference Handbook of Medical Sciences." The local reflexes form the basis of the present paper.

There is, first, the vascular reflex. The vascular or cavernous tissue normally developed to a slight extent at the front and rear end of the inferior turbinated bone, is enlarged and augmented, and may appear also on the side of the septum, on the floor of the nose, and on the front end of the middle turbinated bone. Through any irritation by dust or chilling of the surface this vascular plexus becomes engorged, and if well developed in proportion to the size of the nasal cavity it obstructs the passage. It is the temporary or fleeting character of the obstruction which characterizes the irritable nose, not any permanent narrowing of the passage. Almost invariably engorgement occurs on one side at a time, and then may jump over to the other.

Dependent upon this vascular dilatation is the second reflex, namely, sneezing. With the sneezing there occurs a third reflex, namely, copious secretion of clear mucus, indicating the absence of any inflam-

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matory condition. This irritable n
lead to reflexes in distant regions, a
eyes, ears, throat or nervous system a
The irritable nose may be a symp
some other nasal disease, such as ca
the presence of polypi ; it can also be
by large irritated tonsils. But i
cases it exists by itself without an
primary disease to which it could be
It is very much influenced by the
and patients can get relief by going
mountains of the West or to the
coast.

In the treatment any traceable
such as tangible diseases of the
should first be removed. Quinine
the attacks, but probably does n
them. No other drugs have seemed
to be of any service. Where the co
is not symptomatic of another diseas
nose the only cure is the destructio
cavernous tissue by the galvano-cau
in milder cases, by chromic acid.
ter agent is not as reliable as the
A cure is possible whenever the ex
hypertrophied cavernous tissue is
scribed, while where it is very diffus
but not an absolute cure, can be pr

Professor N. S. Davis, Jr., reporte
of " Rupture of an Aortic Valve."

Four months previous to enter
hospital the patient was carrying a
load of coal up stairs when suddenly
something give way in his left side ; h
rienced considerable dyspnœa at or
symptoms of cardiac insuffiency da
that time. At first the dyspnœa was
able chiefly on walking or on
rapid movements, but it was suffi
necessitate his giving up all work
dyspnœa increased steadily, and he
very markedly anæmic, and in addi
hibited signs of general œdema.
time he entered the hospital there
cites as well as extensive anasarca o
tremities. He was unable to lie w
degree of comfort, but had consta
sit. The pulse was exceedingly fee
very rapid.

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in the aorta above the valves small areas of thickening and hardening. Taking into consideration both the morbid appearances and the history of the case, it is most probable that four months before death, at the time from which the patient uniformly dated his trouble, a rupture of the aortic valve occurred.

Dr. Norval H. Pierce reported a case of "Operation for Hæmothorax."

The patient, male, 19 years old, previously in good health, accidentally stabbed himself in the third intercostal space, half an inch to the left of the parasternal line. The wound was made with a knife-blade two inches long and half an inch wide. Dr. Pierce first saw the patient three and a half hours after the accident. He had had no treatment, and his condition is described as follows: Pale features, pinched, eyes sunken, and pupils widely dilated, surface cold and clammy, impaired hearing, pulse nearly imperceptible and very rapid, respiration sighing. There was very slight external bleeding at the wound, which was about an inch in length. From an inch above the sternum to the lower border of the liver the right side was dull, but at this time the liver was not displaced. No blood was expectorated. The wound, was closed antiseptically, an ice-bag ordered for the chest, warm bottles to the lower extremities, head lowered, whisky, half ounce every forty-five minutes, together with ergot, very little liquids, and absolute rest.

The pulse improved gradually, but the anæmia persisted, dyspnœa arose, together with great restlessness and troublesome insomnia, and the right pleural cavity remained flat on percussion; the lower border of the liver gradually descended, and the heart was displaced to the left. At this time the advisability of operative interference was discussed, but it was not undertaken.

On July 27 a gallon of dark-colored blood was drawn away. This did not cause the dullness over the right thoracic area to disappear, but relieved the difficult breathing and lessened the restlessness and insomnia.

On August 20, the lower border of the liver being within an inch of the ilac crest, another gallon was drawn away. Up to this time the temperature had ranged from 100° to 101° Fahr. Afterwards it fell to normal once or twice, but generally the thermometer registered 100° Fahr.

On September 5 diarrhœa set in, and lasted two or three days. Cough developed soon after, with very offensive expectoration. The line of the liver dullness was gradually descending, and extreme dyspnœa began. On September 23 there was a marked lowering of his general condition, and the operation for empyæma was attempted, but the patient bore the ether so badly that it was abandoned. The tissues of the seventh intercostal were therefore simply incised, about a gallon of fluid allowed to escape, and the opening plugged with iodoform gauze. At the end the patient was in a state of collapse. He rallied, however, and the next day a tube was inserted and the cavity washed with a saturated solution of boracic acid at 100° Fahr., which was repeated every second day thereafter. Fever and cough disappeared on the second day. The washings grew less and less colored, and in a few days the tube was removed.

As regards the place for the incision, the seventh intercostal space is too low, as after the first week the movements of the diaphragm interfered with the drainage, tube.

DISCUSSION.

Professor A. E. HOADLEY thought that the freedom of the hæmorrhage and absence of hæmoptysis indicated a wound of the internal mammary artery. He thought the hæmorrhage could have been controlled by introducing a button into the wound, such a one as would go through the wound with a string attached to it, pushing it into the thoracic cavity, and then by making trac-

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tion on the string outside, it wou
closed the bleeding vessels. As fa
tolerance of the pleural cavity of
concerned, there is no difference
the two cavities—abdominal and t

Professor W. T. BELFIELD exh
specimen of "Muscle Infiltrate
Trichinæ." It was a piece of gastro
muscle from the leg of a man wh
amputated because of disease of t
joint. Some eighteen years ago t
in company with a number of ot
viduals, ate of some poorly cook
and sausage; nearly all of those w
took of this article of diet became
within a week, and a large percenta
This man was very ill for two mon
did not entirely recover his health
four months. This man recover
during the succeeding 18 years
joyed good health, except that he
various times, and more particularl
the last six or eight years, suffere
rheumatism in different parts of t

This muscle, like all the other
of the amputated leg, is thickly
with trichinæ.

ANNUAL MEETING, APRIL 2,

The President, Wm. T. Belfield
chair.

The minutes of the last regular
were read and approved.

The annual reports of the secret
treasurer, and of the auditing co
and committees on library and pu
were read and severally accepted
society.

President Belfield then delivered
address and offered some practical
tions regarding the future work
society.

He advised that the society adop
near future, the plan of organizatio
New York Academy of Medicine,
the organization of sections, one
important subdivision—internal m

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ernments as well as in several of our States. It seems eminently appropriate that this society—the largest in the State—should inaugurate a movement which must redound to the advantage of all reputable physicians in Illinois. The only opposition to be expected is by interested parties, particularly members of medical college faculties; and it is only just to state that these gentlemen are by no means a unit—in this city at least—in opposing the plan.

He regarded it as a pleasure as well as a duty to acknowledge that whatever of success attended the direction of the society's affairs during the past year had been largely due to the judgment and zeal of its secretary.

The election of officers for the ensuing year resulted as follows: J. H. Etheridge, president; A. E. Hoadley, first vice-president; R. D. MacArthur, second vice-president; Frank Billings, secretary; Frank S. Johnson, treasurer; J. H. Wilson, necrologist; Wm. E. Quine, member of committee on judiciary; Liston H. Montgomery, member of committee on membership; John Bartlett, member of committee on library; Wm. T. Thackeray, member of the committee on publication.

On motion an amendment to Art. IV of the By-laws was made so as to read: "The annual dues shall be three dollars."

A motion was made and seconded to adopt the following resolution: "That the committee on publication be instructed to publish monthly in pamphlet form the transactions of the society, and send a copy, by mail, to each member of the society and the prominent medical journals; the expense for such publication to be defrayed according to the provisions of Art. IV, Sec. 11 of the Constitution."

A motion was made, and carried, to amend the resolution, limiting the expense of such publication of the transactions to a sum not to exceed twenty dollars per month.

The amended resolution was then unanimously adopted.

STATED MEETING, APRIL 16.

President J. H. Etheridge in the chair.

Professor L. L. McArthur read a paper entitled "A New Abuse of Hospital Charity," in which he said: As I understand it, the aim of this society is not confined solely to the consideration of questions of scientific interest, but is to exercise also a sort of guardianship over the interests and welfare of the medical profession in general. I select this means therefore of calling the attention of the medical men of this country—for it is a question of general, not local, interest—because it may thus be better brought to their attention. "What's everybody's business is nobody's," is a trite saying, but applicable here, and unless some one takes the initiative, nothing will be accomplished; so, feeling as I do, that the interest of one is the interest of all, permit me to call your attention to a new abuse of the physician's charitable work. During the past few years there have been organized through the United States several alleged chartered corporations, styling themselves National Benefit Associations, Mutual Hospital Aid Associations, and the like, and offering for a small pecuniary consideration ($6 to $10) to insure *for one year* the provision of hospital care, medical service, nursing, medicines, etc., as follows:

A circular of one of them is as folllows:

The object and business of this company are to provide the best possible care and treatment for men wherever they may happen to be when sick or hurt, in consideratiun of a comparatively nominal annual payment.

To accomplish this, arrangements have been made with a large number of the best hospitals in the country (see list herewith), by which any man presenting one of our certificates will be admitted, and kindly cared for, and skillfully treated without further expense to himself.

A large class of men in this country who

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are earning their living in the mills
foundries, and large manufactories, c
railroads, in the logging camps, and n
and the thousand industries that are d
oped by their labor, are subject const
to severe sickness or injury, and gen
find themselves at such a time sadly in
of the comforts, nursing, and proper
necessary to the rapid recovery of
health, and the healing of their woun

They are all right as long as the
strong and well, but when sickness or s
injury prostrates them, the strongest
roughest of them are like the merest
and long for the comforts of home an
tender touch and intelligent care of
one who sympathizes with them in
sufferings. The place for them *then*
a first-class hospital, where every pro
is made for their care. Neat and
rooms, nurses trained and devoted to
high duty, skillful surgeons and physi
medicine and apparatus in all forms k
to the profession, and food carefully
pared for each patient's special case.

Our plan places all these necessitie
comforts within the reach of the pc
man. With one of our certificates i
pocket, no matter where he is, he can
assured that, if anything should happ
him, a hospital near by will welcome
not as an object of charity, but as en
to all its privileges, for he has pai
them in advance.

Hundreds of our certificate holder
have been in the hospitals from tir
time during the past year, are ready t
tify to the value of their investment,
amounts to only three cents a day, an
now most enthusiastic in praise of
plan.

Our certificates are sold by trav
agents, and at the hospitals, and will b
by mail from our office. Each ha
name of the chain of hospitals printed
it, so that the holder may know whe
apply, if occasion require, in any p
the country.

By the above you will see that no r

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further growth of an already prospering imposition.

This institution in Chicago, of which the circular is being passed around, is run in elegant style in the Phœnix building, with a large suite of offices. A man takes the $10 and insures the other man that he shall have a doctor's care the year round, if necessary, and the doctor receives no compensation for it, though many times the man is perfectly able to pay for it. He goes to a railroad president or vice-president and says, I have this long list of hospitals in my contract and I would like you to recommend it to your employés as a very cheap form of hospital insurance. He sees that it is a good thing for the men, and does so. The "one man" makes an easy living at the expense of the hospital surgeons and physicians, who must turn out at all hours of the day or night to benefit him.

Dr. C. S. BACON: From the description of the association given by the doctor, it seems that this is only one phase of the insurance business, and I do not understand that the companies fail to live up to their agreement. As far as appears from the paper they will in every case provide the hospital attendance, and as long as the company is a legal one, I do not see how it is to be blamed. If there is any blame it must attach to the hospital which will make such an agreement, and the paper is valuable as calling attention to the fact that hospitals, in this matter as in many other cases, are not just to the staff of attending physicians and surgeons. This is not a solitary case. It is well known that in many of the hospitals of this city, as in other places, patients are admitted who are well able to pay the attending physician, but by the rules of the hospital the physician must give his services for nothing. It is only by counting on the gratuitous services of the physician that they make the contract with the association. The blame, I should think, was entirely with the hospital and not with the association, which is a legally organized and honorably conducted insurance association.

Dr. GEORGE W. WEBSTER: I would just remark that a man came to see me a few days ago, from Iowa, who had lost one of his hands in an accident. He said he had one of these certificates from an insurance company—he had been insured in this city. He said he presented that at two hospitals in the State in which he was injured, two hospitals that were on the printed list of the company in which he was insured, and both hospitals denied having made any agreement of that kind, and he was not allowed to enter either of them. He said the company was simply a fraud.

Professor MCARTHUR, in closing the discussion, said: In regard to the location of the blame; I do not blame the man for trying to make as much out of it as he can. He does not do it for love, and the only ones who suffer are the physicians. In those cases in which the matter has been properly presented to the hospitals, for instance, St. Luke's, the trustees of the hospitals have refused to renew these contracts; I am pleased to know that they have done this in Iowa.

The PRESIDENT: I would like to ask the doctor if he knows the rate charged by these hospitals?

Professor MCARTHUR: Six dollars a week for ward, and $10 for private room.

The PRESIDENT: Do they make a special contract or reduction from these rates?

Professor MCARTHUR: The hospitals let them in on the ground floor and will take them at $6 a week and make a contract with the company, but the company make a contract with the insured for $6 or $10.

The PRESIDENT: I want to find out where this institution makes the money. The ordinary charge is $6 in the hospitals, and the hospitals must make a special rate lower than that in order for the association to make money.

Professor MCARTHUR: The hospitals charge them at the rate which is figured at

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the end of the year as the average cost per patient, not to make, not to lose, $1.03 for St. Luke's. The money is made by the company by dealing in undelivered futures. They insure hospital care and medical services which in the majority of cases is never delivered. When delivered, no expense to company for medical care, no matter how long or how valuable. That is upon the annual cost, and they charge them the same rate. This institution has been going for a year, one in Portland, Oregon, for two years One started up in Detroit, and one in Louisville.

Dr. R. TILLEY: Are all these associations run by the same person?

Professor MCARTHUR: No, sir; by different men. The Chicago association has a single representative.

Dr. Edwin Pynchon read a paper on the "Trituration of Alkaloids." He said: In its progress the science of medicine receives much assistance from the collateral professions, among which pharmacy and chemistry have been most liberal contributors Of the products of chemistry the alkaloids merit consideration as being among the first in importance. In the alkaloid of a plant we have in a concentrated and invariable form the value—the medicinal worth of the plant. I say invariably, as a given alkaloid has ever the same chemical formula. In several cases a drug has been found to contain two or more alkaloids though in such cases one of the same possesses pre-eminently, as compared with the others, those powers or properties which have been attributed to the crude drug. I believe where but one alkaloid is found it possesses therapeutically the properties of the mother remedy.

Two specimens of the same plant may differ as to the per cent. of alkaloid which they will yield. In other words, pound for pound, they differ in richness as to the quantity each may respectively contain of their active principle. In such case should a fluid extract be made from each specimen in accordance with the directions of the

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accessible, it is customary to write prescriptions, but in many places and cases, were it necessary to await the arrival from the drug store of the remedies prescribed, the case would either have recovered or have terminated fatally. I favor the use of the pocket medicine case, containing a reasonable number of appropriate remedies with which to meet the most common indications found in acute diseases and emergency cases. By the use of the medicine case and through the palatableness of the remedies therein contained, the homœopathists have been enabled to secure much practice which would otherwise have fallen into the hands of regular practitioners. The employment or the pocket medicine case, will, to a certain extent, do away with the annoyance and danger of the substitution and adulteration which are occasionally practiced by disreputable pharmacists in the compounding of prescriptions, for no physician for his own use would buy other than the best and purest which can be obtained, and as the profit on compounding prescriptions is generally large, the physician can frequently furnish one or more of the needed remedies at one-tenth of the cost which the patient would entail at the corner drug store. This financial side of the question has often been the cause of the patient employing one of that school of medicine the practitioners of which furnish their remedies without charge. And again, when prescriptions are invariably written it often occurs that the druggist gets all the money which the patient can spare, and the poor *medicus* waits, and continues waiting for his pay until the patient's gratitude has been effaced by time, and while thus waiting not infrequently learns that death has come to cancel the obligation; whereas, had he furnished a portion of the medicine required he might have received at least a portion of his fees.

When, in addition to the foregoing, we take into consideration the promptness with which a remedy can be prescribed and the avoidance of the otherwise necessary trouble of the patient being obliged to send out to the pharmacy, and when after closing hour being subjected to extra delay as well as to extra expense, it is not difficult to see why the physician should provide himself with a case of remedies for bedside prescribing.

For this purpose it is desirable to select remedies of the greatest efficiency and concentration. As to form, the employment of liquids is not so convenient and cleanly as is the employment of granules and powders.

* * * * * *

What is next needed is to provide a system of preparing remedies in the form of powder which shall be practical and comprehensive and be a companion to the dosometric granule.

In the system of decimal triturations of the homœopathic school we have an indication of what is desired. In triturating the remedial agent with an inert powder, preferably sugar of milk, it is an undoubted fact, and most generally admitted by observing practitioners, that the action of the remedy is increased by such process of subdivision —oftimes developing properties which the crude remedy does not possess—and that it is thereby better absorbed and assimilated, and gives better and more prompt results. Now, while the 1X and 2X and in some cases the 3X triturations of the decimal system, which when given in the usual doses of three grains means a dose of either 1-3, 1-33 or 1-333 part of a grain, are allowable and are sensible preparations, it stops at that point, for 4X means a dose of only the 1-3333 part of a grain, which is an amount too minute to warrant further consideration, unless prescribed as a placebo. The centesimal system of trituration, one of the wild vagaries of Hahnemann, does not merit attention.

It will be observed that the principal defect of the decimal system is that the arithmetical progression employed is too rapid. What can be done with the many agents the medicinal dose of which is between the

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1-3 and the 1-33 or between the
the 1-333 part of a grain? A s
trituration and nomenclature is d
which this objection will be remo

I employ a numeral which I ha
the medical denominator; hence tri
prepared in accordance with thi
can be known as "denominator
tions." In this system, as with
imal, the medium or general adul
uniform, to wit, three grains, w
the way, can always be accurate
ured by means of the three-grai
which at the opposite end is provi
a smaller concavity which when
contains two grains.

I have triturated one grain of
alkaloid with a sufficient number
of sugar of milk so that three gr
contain the usual adult dose. A
after the name I affix a number
the number of grains containing
of the remedy. For example, ta
phate of morphine, the average
which is 1-8 of a grain, I triturate
thereof with twenty-three grains
of milk and mark it "Morphiæ
24"; of this preparation the nu
grains given at a dose is always
merator over the denominator 2
three grains is 3-24 or 1-8; two
2-24 or 1-12; six grains is 6-24 or
The remedy is thus sufficiently t
for accurate dosage and so plainly
that, while unintelligible to the l
reads in the clearest possible m
the initiated. The numeral is w
printed in as large type as is the
the remedy and is on a line ther
there is no second line with a larg
in very small figures to deciphe
soon learns to associate the num
the name as a part thereof, and f
classify together those remedies w
quire the same denominator.

The denominators which I fin
best to employ are 3, 6, 9, 12, 1
36, 48, 60, 75, 90, 120, 150, 180,
360, 450, 600, 750, and 900; 10

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tion. With reference to his suggestion about the desirability of employing a pocket case; I suppose we all appreciate that—I do, at any rate. As to the use of the tablet triturations, I have been using them for years past. As to eligible preparations, I do not want any more eligible preparations than Fraser's, which give me all that I at present desire: those appearing in the elegant little tablets, practically without taste for the most part, and furnished with the most accurate dosing. I have tested them myself repeatedly. The materials are all of the very best. For instance, referring to the proto-iodide of mercury, commonly and erroneously called the green iodide of mercury, there is no better preparation of proto-iodide of mercury on the market than that which Fraser supplies. It is true he obtains the proto-iodide of mercury from McKesson & Robbins, who have given special study to the proto-iodide of mercury. I have observed and demonstrated that in the large part of the proto-iodide pills on the market, the peculiar green and blackish color, from which the preparation has been called the green iodide, is due to a certain amount of red iodide, a certain amount of metallic mercury, and a certain amount of black oxide, associated of course with the yellow iodide, and these constituents together form that muddy green from which the trituration is called the green iodide. I should think the preparation could be made very much more acceptable by the manufacturer than the physician can make it for himself. The amount of machinery that is used by those who triturate these preparations efficiently is quite considerable, and I am satisfied that any one examining the subject would not suppose that he, in his own office, could triturate as well.

Dr. C. D. WESTCOTT: For a year or more I have been using the triturated alkaloids, as the doctor suggests, in a pocket case, and have had abundant proof of the greater efficiency of the alkaloids over fluid preparations as ordinarily obtained. For instance, in my case I always carry a triturate of aconita or aconitine, the alkaloid of aconite, and have found that by dissolving a certain number of tablets in a certain quantity of water (20 to 30 teasponfuls), I can regulate the amount of medication I desire to get, and obtain a more uniform effect than by the use of any fluid preparation.

Professor G. C. PAOLI said he could not favor the plan of carrying medicines in a satchel so long as he had reliable druggists to depend upon. He believed the fluid extracts made by scientific druggists in Chicago to be pure and to contain the proper medicinal strength. He did not favor granules, for he had known them to pass through the intestinal tract undissolved. He believed the old way to be the best, although he admits the granules are more inviting in appearance. But he cannot yet conscientiously use them.

The PRESIDENT: I was going to ask how the doctor would get along with the different cathartics; there are so few of them from which you could get a valuable alkaloid, and it is so very desirable to use that class of medicines.

Dr. EDWIN PYNCHON: In answer to that question, I will say that there are four or five cathartics from which we can get an alkaloid or glucocide, to wit, aloes, podophyllum, colocynth, leptandra, and jalap; these fill the bill very well. Of course this class of triturations cannot be used for all remedies. In the same way the metric granules are only suitable for those remedies given in a very concentrated form. Fluid extracts are only for remedies which are of vegetable nature, and soluble.

In reply to Dr. Tilley, I will state that it was not my intention that each physician should prepare his own triturations. The phraseology I should have used was that I had them prepared. If there were a demand for medicines prepared in the form of powder there would be plenty of firms who would be glad to so prepare them. The idea of prescribing medicine in pow-

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dered form is general. The old
powder is a common prescriptio
certainly ought to be as easy to
a remedy in the nicer form. Alka
being made in large quantities, wh
cates that there is a field f
remedies.

As to Dr. Paoli's remarks; I do
him to understand that I depend
upon a pocket case. In fact I d
pend one-third of the time upon
case, but write prescriptions frequ
to the idea of alkaloids not being
my impression is that alkaloids
soluble, and it is owing to their
solubility that they are as powerfu
are. If alkaloids are not soluble,
ing them in the form of dosimetric
ought to be more dangerous than
ing them in the form of powder.
idea of following old ways; of cou
are in the habit of so doing, and
persuade them to do otherwise.
old ways when they are good, but
new ways when they are better.

THE GYNÆCOLOGICAL SC
OF CHICAGO.

REGULAR MEETING, MARCH 23

The President, Henry T. Byfo
chair.

The President exhibited two
moved per vaginam for fibro-sarc
carcinoma respectively. The pati
aged 47 and 55 years, and have b
well since the removal.

Dr. Franklin H. Martin read a
fifteen cases of fibroid tumors of t
treated by galvanism. From Ja
1887, to January 1, 1888, he app
vanism in strong, accurately meas
definitely concentrated doses in gy
ical cases over fourteen hundr
During this time he employed
for uterine fibroids 623 times i
cases. The results were as follow

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Syphilis.....(about)	70
Pulmonary tuberculosis.....	9
Peritonitis	2
Other fevers.....	23
Faulty placental insertion.....	10
Vitium cordis.....	1
Injuries	7
Eclampsia.....	1
Induction of labor.....	4
Twin pregnancy.....	43
Total	170

This leaves 395 cases to be relegated to the category of the unknown.

In Braun, Chiari, and Spaeth's analyses of 7,835 cases of labor occurring in the Vienna Hospital for the year 1850–51, 393 cases of premature labor are included. In only 126 cases, or one-third, could the cause be definitely determined.

CAUSES OF THE PREMATURE INTERRUPTION OF PREGNANCY

These may be considered as they relate, first, to the father; second, to the mother; third, to the ovum; and fourth, to traumatism.

Causes Referable to the Father.—These are constitutional vices, particularly those of syphilitic origin.

Causes Referable to the Mother.—These include general and local diseases, climatic and hygienic influences, and finally certain idiosyncrasies, which seem to be productive of abnormal irritability on the part of the uterus, even in the absence of recognizable lesions.

Causes Referable to the Ovum.—These comprise all diseased conditions of the fœtus and its appendages.

Traumatism includes accidents, efforts at criminal abortion, and the justifiable induction of labor.

In considering the subject of abortion in general, one can scarcely fail to be struck by the disproportionate frequency in multiparæ, and this seems clearly to depend on local diseases, such as endometritis, metritis, and uterine displacements.

If we exclude attempts at criminal abortion and the justifiable induction of labor, traumatism may be said to include only a small proportion of the causes of abortion; thus, in the two analyses above referred to, we find only fifteen cases referable to injuries in a total of 904 cases.

But whatever may be the mediate causes of the interruption of pregnancy, the death of the ovum is almost without exception the immediate cause of the awakened uterine activity and the premature expulsion of the product of conception.

Death of the fœtus may be determined by disturbances of nutrition, due to faulty development of the ovum, and especially its appendages, which lead to abstraction from the fœtus of its supply of nutriment and oxygen.

Again, the exchanges between fœtal and maternal blood may be impaired by maternal hæmorrhages, whether from the uterus or from other organs.

As for syphilis, this may cause the death of the fœtus, either primarily or secondarily.

The point of this paper is to draw attention to the influence of endometritis in determining the premature expulsion of the ovum. The great frequency of this disease is a matter of daily observation, and its influence in the production of abortion cannot be doubted.

If a woman aborts frequently, we are apt to say she aborts because she has aborted, she is the subject of habitual abortion. With this we content ourselves, whereas, no doubt, a careful study of these cases would often lead to the discovery of a pathological cause of remedial nature.

In endometritis, extravasations into the hypertrophied tissue of the decidua often take place. If the disease is of moderate extent, or if it develops late in pregnancy, and does not involve the placenta itself, it may be borne without influence upon the development of the fœtus. If, however, it develops earlier or in a severer form, it may often compromise the life of the fœtus

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by leading to endometritis decidua with its hyperplasia, extravasations, and fatty infiltrations. If the placental decidua be involved, labor, when it comes on, is apt to be complicated by adherent placenta with its consecutive dangers.

Report of Case.—He here offered for inspection a specimen of macerated fœtus with its appendages. The patient who gave it birth was born in this State. She is 24 years of age, well developed, weighing about one hundred and sixty pounds, is strong, and claims to have enjoyed very excellent health for the most part. She was married three years ago, her husband being a skilled mechanic of exemplary habits and enjoying fairly good health.

Seven months after marriage, the patient gave birth to a macerated fœtus of six or seven months' development. One year later, this occurrence was duplicated. About a year and a half later still, she gave birth to the fœtus which was exhibited.

The placenta of the first fœtus was somewhat adherent, and did not come away entire. The patient spent two weeks in bed, and, according to her own statement, was pretty sick. Subsequent to this, she enjoyed good health until after the birth of the second fœtus, since which time she has not felt as well as before marriage.

A leucorrhœal discharge made its appearance after the birth of the second fœtus, and has continued most of the time to the present day, and since this event her menstrual periods have been accompanied by pain, headache, and fever. The patient has never flowed much during labor, and never at all during gestation.

On the 28th day of last December the patient said that she had reason to suspect that pregnancy had been interrupted, and requested an examination.

The examination revealed a doughy condition of the belly, which was not distended in proportion to the supposed period of gestation. The position of the fœtal parts could not be made out. The os externum admitted one finger. A thick muco-purulent discharge of disagreeable odor was present in considerable quantity.

As regards subjective sensations, the patient said that the last fœtal movements had been felt four days before, and that they had grown gradually feebler before altogether ceasing. She had also experienced sharp pains in the abdomen, and had noticed a feeling as though the fœtus had turned over, such as is often described in connection with a dead fœtus. She had not, however, noticed the other sensations of mawkish taste in the mouth, languor, and a sensation of cold in the abdomen from stoppage of the fœtal circulation, and concomitant abstraction of heat from the uterus—a phenomenon, by the way, which has been made available as a diagnostic point in determining whether the fœtus has died or not. The patient was advised that she might expect the expulsion of the fœtus in about ten days; requested to use the vaginal douche.

On the 5th day of January, twelve days after the cessation of fœtal movements, labor began. The fœtus was discharged, with the membranes intact, the placenta soon following under the influence of gentle compression of the uterus. The placenta was intact, and labor ended with a moderate discharge of blood.

With the exception of the presence of a small fresh coagulum on the surface of the placenta, a pale color, and considerable friability of its tissue, nothing abnormal in its appearance could be discerned.

The fœtus corresponds to the sixth month of development. It exhibits the usual appearances of maceration.

At noon of the sixth day of the puerperium the patient had a chill, and some additional severity in the pains from uterine contractions.

The temperature, which up to this time had been nearly normal, was now found to measure 100.5°. The lochia was somewhat fœtid, but the patient said she had passed no clots whatever. A vaginal examination revealed a subinvoluted uterus.

At 5 o'clock p. m., the temperature was 101.5°, and the uterus was curetted with a modified Sims' curette, and a quantity of soft pulpy material, composed almost wholly of fibrin and blood corpuscles, was removed; the total bulk of this material was about equal to the volume of a three-ounce vial.

At first I was unable to reach the fundus uteri with the instrument, but after repeated efforts, which resulted in bringing away consistent masses half as large as one's finger, I was able to reach every part of the endometrium. Every stroke of the curette dislodged masses of fibrin, but even after a most vigorous scraping the endometrium at the fundus had a rough, knobby feel.

The following morning, the patient, after a good night's rest, had a normal temperature and felt far more comfortable than at any time since her labor.

The temperature remained normal for three days, when it exhibited a considerable exacerbation, and the uterus was douched again. The speculum was necessary, because it was impossible to introduce the nozzle without it.

In this case, neither the patient nor her husband has ever been the subject of syphilis. The patient herself has undoubtedly long suffered from endometritis, although this was perhaps not the occasion of her first mishap.

Dr. Hoag further said, the more I use the curette in puerperal cases, the better pleased I am with it. I prefer an instrument with a large scraping surface and with a long shaft, set in a convenient handle. The presence of foreign bodies in the puerperal uterus is sure to obstruct the progress of involution, and the depth of the canal is altogether disproportionate to the size of the retained decidual or placental tissue or coagulum. Duncan has reported a case where a small bit of placenta was retained in which, at the time of the removal of the tissue eight months after the expulsion of the fetus, the uterine canal was eight inches deep. In my case, I found that involution had made no progress at the time of the curetting, and the instrument which I used, although eleven inches long, was almost too short.

I cannot help feeling that the employment of the finger-nail as a curette is a dangerous procedure. It is of interest in this connection to note the results of some recent experiments by Professor Fürbringer, as reported in the *N. Y. Med. Record* of March 10. The experimenter, employing for his subjects thirteen assistants and chiefs of clinics, required them to carefully disinfect their hands according to the most approved methods. He then succeeded in extracting enough septic material from under their finger-nails to start colonies in twelve out of the thirteen cases.

ABSTRACTS AND EXTRACTS.

SPECIAL CORRESPONDENCE OF THE BRITISH MEDICAL JOURNAL.

PARIS.

Disinfection of Tuberculous Sputa—Transmission of Tuberculosis from the Human Subject to the Dog—Experiments on Hereditary Alcoholism—Chloral in Diphtheria.—At the meeting of the Société de Médecine Publique et d'Hygiène Professionnelle, February 22, 1888, M. Grancher gave the results of researches made by himself and Dr. De Gennes, on the disinfection of tuberculous sputa. The air exhaled by tuberculous patients does not affect animals, therefore it does not contain bacilli. M. Grancher and Dr. De Gennes disinfected tuberculous sputa with carbolic acid at 5 per cent.; potassium, at 5 per cent.; sulphate of copper, at 5 per cent.; chloride of zinc, at 5 per cent.; corrosive sublimate, at 1 per cent. Guinea-pigs were submitted to injections of sputa thus disinfected. The results were not encouraging; the corrosive sublimate alone appeared to kill the tuberculous bacillus. It is difficult,

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however, and even dangerous, t
1 per cent. Guinea-pigs were i
with sputa which had been mixec
water, and exposed to a temperatu
80°, and 100° C. It was discov
these experiments that the bac
water at 60°, are nearly always
80°, and at 90° and 100° are alw
MM. Geneste and Herscher h
structed an apparatus to be pl
each hospital ward. M. Lailler
would not be possible to have one
only for each hospital, on accou
expense; and if the apparatus co
heated by steam instead of
Ollivier remarked that M. Gran
periments proved the insufficien
ordinary means of disinfection
chloride of zinc. Meat should
well cooked, and when prescribi
the physician should ascertain
non-tuberculous mutton was
Grancher replied that raw mea
dangerous. The experiments o
card prove that the bacillus of tu
rarely exists in the flesh or juic
mals that die of this disease un
be tuberculous glands.

Dr. Bourgougnon publishe
Journal de Médecine, March 1
case in which tuberculosis was tr
from a human being to a do
patient had suffered for some tir
slight, dry, exhausting cough, fe
at night, and intermittent pai
thorax. His father died of an a
the heart, his mother of phthisis
ters died from tuberculosis, o
the other at 27 years of age. Th
when first examined, presented
toms of tuberculosis. After som
however, cough and fever incre
patient became breathless after
stairs, lost flesh, and had nocturn
In the month of February, 188
crepitations and dullness were he
the left clavicle. Finally, in Oct
he died with all the symptoms of
tuberculosis, the disease having la

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to its having acquired the disease by the respiratory organs."

At the meeting of the Académie des Sciences on March 5, MM. A. Mairet and Combemale related their observations on the degenerative hereditary influence of alchohol. Twelve puppies were born of a dog submitted to chronic intoxication with alcohol, and a young, healthy bitch with no defect. Two were stillborn, three died accidentally; the seven others succumbed to various diseases—epileptic attacks, verminous enteritis, pulmonary and peritoneal tuberculosis. At the necropsy, lesions, evidently arising from alcoholic degeneration, were found—thickening of the bones of the skull, premature closing of fontanelles, adhesion of the dura mater to the cranial bones, difference in weight of the cerebral hemispheres, fatty degeneration of the liver. A strong, intelligent bitch, during the last three weeks of gestation, was intoxicated with absinthe, and gave birth to six puppies, of which three were stillborn; two were well developed physically, but were not at all intelligent; the third—a bitch X—grew slowly, presenting defective intelligence and a remarkable degree of anosmia. X, presenting symptoms of degeneration more especially of the nervous system, was coupled with a strong, intelligent dog. She gave birth to three puppies, one of which had flat foot, atrophy of several of the toes, wolf's mouth; a second died of marasmus; the third was attacked with atrophy of the hind legs. From the latter case it would appear that the degenerative influence of alcohol is greater in the second than in the first generation.

Dr. Adolphe Mercier (of Besançon) has utilized the antiseptic properties of chloral in the treatment of diphtheria in children with excellent results. He proceeds in the following manner: when the tongue is thick, coated, and swollen, the child is given an emetic of ipecacuanha, without tartrate of antimony, which causes prostration. When vomiting has ceased, sirup of chloral, prepared according to the French codex (at 5 per cent.), is given every half-hour, in doses of two, three, or five grammes, according to the age of the patient. It is better to begin by giving the child rather large doses in order to keep him in a state of somnolence, as medicine is then more easily administered. The submaxillary and anterior regions of the neck are covered with a thick layer of belladonna ointment, and wrapped up in cotton-wool. In order to keep the throat impregnated, and prevent the chloral from causing pains in the stomach, the patient is given something to drink every time before, and not after, taking that remedy. As long as he continues taking chloral, to which M. Mercier regularly adds sirup of bark, the patient may eat and drink whatever he fancies—milk, wine, lemonade, or any solid food. This treatment must be rigorously carried out during forty-eight hours. No change ever takes place before twenty-four hours. In forty hours the false membranes begin to come away, and have completely disappeared by the forty-eighth hour. In the case of patients with fair hair and white skin, they may only come away on the third day. After the separation of the false membranes, the sirup of chloral causes smarting in the throat, and must then be stopped. In rare cases the loosening of the false membranes leaves the tonsils red or swollen. An astringent gargle will do away with any swelling of that kind. A thick coating of vaseline applied to the neck will get rid of any pustular eruption caused by the ointment. If during the illness any spasms or dyspnœa occur, the throat is painted with a 1 in 50 solution of hydro-chlorate of cocaine. Prescribed in the last stages of the disease, when the voice is gone, and laryngeal diphtheria has set in, the chloral treatment would be rather injurious than otherwise.

VIENNA.

Excision of Indurated Tissue and Enlarged Glands in Syphilis—Erythrophlæin.—Dr. Neumann showed a patient from

SALICYLATE OF MERCURY IN VENEREAL AND CUTANEOUS DISEASES.

Lajoux and Grandval, of Rheims, were the first to make a chemical study of salicylate of mercury, in 1881, their observations being published in the following year, in the *Journal de Pharmacie et de Chemie*. In 1886 a Brazilian student, A. Duprat, presented to the Société de Biologie de Paris a note on the physiological action of salicylate of mercury, in which he reported some experiments made with this salt on frogs. In the same year Professor Silva Araujo, of Rio de Janeiro, made a clinical study of the salt, and within a little more than a year about a dozen communications from his pen have appeared on the same subject.

In April, 1887, Dr. Bruno-Chaves, of Rio de Janeiro, wrote in the *Medical and Surgical Reporter* of Philadelphia, in regard to the use of salicylate of mercury in syphilides: "Our success exceeded our expectations, and from what I have observed I am convinced that the salicylate of mercury will become as esssential to therapeutics as the iodide of potassium, calomel, and other useful medicines." From the more recent reports on the subject it appears that he did not over-rate the value of the drug. Its value in ophthalmology has been tested and confirmed by such men as Moura Brazil and Neves da Rocha, Lara, and Guedes de Mello. Ribeiro dos Santos, of Bahia, whose clinic is very large, speaks highly of the drug in conjunctivitis and iritis of syphilitic origin.

Of its physiological action Duprat says: We may conclude that it acts on the central bulbo-medullary system, the action seeming to be that of the components, mercury and salicylic acid. João Paulo, of Rio de Janeiro, confirms Araujo's observations and results with the drug, and says that it is a more powerful drug than the phenate of mercury. He has had excellent results in administering it to syphilitics in increasing doses, from 5 millig. to 5 centig., preferably in the form of pills.

Bruno-Chaves recommends the following formula, known as Delgado's unalterable mercurial pills:

Salicylate of mercury....0.01 centig.
Extract of carobe.....0.05 centig.
Extract of licorice.....q. s.
Licorice powder.....q. s.

This is the formula for one pill; 2, 3, or 4 of these are to be taken a day in the more common cases. They may be covered with some protective substance, or simply silvered.

Mixed with vaseline the salicylate of mercury may be used externally. It unites intimately with fatty bodies, and forms a very homogeneous mass with them. Administered topically, in doses of 50 centig. up to 2 grams of the salicylate to 30 grams of white vaseline, the drug has an excellent effect in some syphilitic affections. The drug has been used also for subcutaneous injections by Moura Brazil and Neves da Rocha, in the proportion of from 5 to 10 millig. to 10 grams of distilled water.

For injections into the urethra the following solution has given good results:

Salicylate of mercury.....0.15 centig.
Rose water.....250 grams.
Carbonate of soda.....q. s.
To be given in three injections a day.

This formula may be used also as a collyrium, as has been done by Moura Brazil and Ribeiro dos Santos.

In a large number of cases in which the drug was used internally by Bruno-Chaves in one case only was even slight intestinal irritation observed, nor does it produce stomatitis, unless taken in very large doses.

But the good effects of the drug are not confined to syphilitic cases. Silva Araujo says that in the parasitic dermatoses (eczema marginata, pityriasis circinata, parasitic sycosis, pityriasis versicolor, tinea favosa, tinea tonsurans) it has an energetic action second to none of the parasiticides in general use; and it has the advantage of being odorless and unirritating when the doses are proportioned to the intensity of the dis-

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ease to be combatted. One Brazilian dermatologist reports a cure of a case of trichorrexis nodosa (trichoptilosis) affecting the moustache.

Bruno-Chaves reports good results from its use in lepra, used in connection with gynocardic acid (the active principle of oil of gynocardia, or chaulmoogra oil). The patients recovered normal sensibility, and the leprous patches disappeared. It is true that the cases were mild, but there has been no recurrence. Silva Araujo speaks highly of its action in lepra. Bruno-Chaves has used the gynocardate of mercury in leprosy, in pills of 0.05 grams, made with .10 centig. of extract of gentian, and a sufficient quantity of powdered licorice.

Moura Brazil was the first to use the drug in diseases of the eye.

He gives it internally in the form of pills, and in his very large practice he has not found a single patient whose stomach refused to tolerate them. He has had the best possible result in 45 cases of iritis, 50 cases of choroiditis, 10 of scleritis, 25 of retinitis, 8 of muscular paralysis, and 3 of neuro-retinitis. He has had good results in a case of papillary atrophy of syphilitic origin, in lymphatic keratitis, in pustular conjunctivitis, and in impetiginous eczema of the pupil. In purulent conjunctivitis, the drug has a great advantage over nitrate of silver, since it causes less pain, and does not stain the hand of the physician. In simple conjunctivitis Moura Brazil uses a solution of 50 centig. to 30 grams of distilled water; in blennorraghic conjunctivitis the solution is 1 gram of the salt to 30 grams of water.—*Annales de Dermatologie et de Syphilographie, April* 25, 1888.

THE CHARTER OF THE COLLEGE OF SURGEONS.

The official announcement made by Sir W. Hart Dyke in the House of Commons, and the report which we publish in another column of the proceedings of the Council of the College of Surgeons, will afford to the profession what is probably to the bulk of our readers the sensation of a painful surprise. The Privy Council, under the well-devised official formula of declining to deal with contentious matter, have practically refused off-hand the applications of the fellows and members for amendments of the charter. There are probably few precedents for dealing in this summary way with a petition of so many thousands of the members of a college for the better recognition of their rights in their own corporation. The Privy Council, or rather the one or two distinguished gentlemen who act for it in these matters, received in this case a petition of almost unexampled numbers and weight from the educated members of a professional body, and a further formal request from a delegated deputation that if their claims were not admitted they might be heard by counsel in support of them. Nevertheless, it now appears that, without reply from the existing authorities of the college, and even without the usual courtesy of any further communication with the association of members, the advisers of the Queen have summarily snuffed out their claim. Such a course of action calls for immediate and energetic protest. The claims of the members may be right or wrong, but no steps have been taken to convince them that they are unfounded either in policy, justice, or law. No answer of any sort has been vouchsafed to their arguments or their claims, although these were based, among other things, upon the strongest allegations as to the true constitution of the body whose charters were in question, and showed strong reasons for the belief that many matters in the existing organization amounted practically to an abuse.

The Privy Council cannot have convinced itself either of the impolicy or of the want of legal basis for these contentions, since it neither received any answer in respect to them from the promoters of the charter nor afforded any opportunity for a judicial or quasi-judicial consideration of

the issues involved. Trusting to the usual fairness and courtesy of great official bodies in such matters, no discussion has meantime been raised in Parliament, and at this period of the session it is difficult, if not impossible, to secure the attention of Parliament to the subject in any effective manner until next February. It is perhaps undesirable that the members should be driven to enforce the rights they claim by any litigation with their own college, and especially so as these claims are much more largely based upon questions of public policy and general justice than of technical legal right, although the latter would appear not to be wanting.

Even yet, however, it is not too late for Her Majesty's advisers to reconsider their present attitude towards the question. It would appear to be still open to the members to address an immediate petition to the court praying that the matter of such petition and of the previous petition signed by 6,000 members of the college already before the Privy Council, may be remitted to the Privy Council in its judicial capacity for further debate in order that they may advise the crown with judicial responsibility, after hearing such evidence as the parties interested may desire to produce and the arguments of counsel thereon. We believe that there is nothing contrary to constitutional practice in such a course, although precedents of this precise character are, of course, rare, as are the circumstances which lead to it. It is highly unsatisfactory that so important a question should be burked by an official body, which practically sets aside a claim the equity of which it neither discusses nor decides. It must not be forgotten that even the limited supplemental charter which it is now proposed to grant will perpetuate and increase that autocratic form of administration against which the bulk of the members have petitioned and protested, by empowering the existing authorities to hold and administer even a larger amount of corporate property than that which they already possess. The members can hardly allow the matter to rest here, if they are well advised and properly led.—*British Medical Journal.*

TRANSPLANTATION OF NERVE FROM THE RABBIT TO MAN.

Dr. Gersung, of Vienna, assistant to Professor Billroth, has recently performed a novel and interesting operation—the transplantation of nerve from the rabbit to man. The case has not hitherto been published in any medical journal, but owing to its general interest the bare fact had found its way into the lay newspapers. Our Vienna correspondent has received from Dr. Gersung a verbal account of the salient points of this most remarkable operation, which has so far been conspicuously successful. The patient is Professor von Fleischl, the distinguished occupant of the chair of physiology in the University of Vienna; sixteen years ago he accidentally wounded himself while conducting a *post-mortem* examination, and severe inflammation of the whole right upper limb ensued. During the course of the disease the terminal phalanx of the thumb became gangrenous. The stump thus left was painful, and later on re-amputation was performed. This was followed by the formation of neuromata. For this condition the branches of the median nerve which supply the thumb were first resected, together with the terminal neuromata, and at a later period, when new neuromata began to develop, the central parts of the same nerves, together with the branches of the radial nerve, which supply the thumb, were resected. Fresh neuromata now developed on the branches of the median nerve, which were treated, without any success whatever, by the injection of hyperosmic acid and electrolysis. Two years ago the neuromata were resected again, and the resection of the nerves was continued as far as the "ligamentum carpi volare"; on this occasion, the branches which supply the radial and the ulnar sides

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of the index, as well as the radial side of the middle finger, were resected to a great extent. The forefinger now became anæsthetic, except the dorsal aspect of its first phalanx, which, as is known, is supplied by the radial nerve; in the same way the whole radial side of the middle finger became anæsthetic. The pain, however, again recurred, as after the previous operations, and during the course of the second week after the last operation, the patient became aware that a fresh neuroma was developing. The suffering finally became so severe that the patient wished to undergo another operation, in order to procure, at least temporary relief. Accordingly, the following operation was performed: On March 4 the patient was put under the influence of chloroform, and the neuroma, which was situated behind the volar carpal ligament, was excised, the nerve being cut through behind the neuroma. The peripheral nerve stumps of the two digital branches above mentioned were then sought for. A rabbit was now killed, and as long a piece as possible of the sciatic nerve of the animal, with the two branches into which it becomes divided, was dissected from it (the animal still presenting voluntary contractions). The sciatic nerve was afterwards inserted into the space between the central stump of the median nerve and its digital branches; the central end of the sciatic nerve was sutured to the connective tissue which covered the median nerve, and the two branches were sutured to the digital branches of the median nerve; the portion of nerve, measuring about six centimètres, which was deficient, was thus made up. After the operation severe pain persisted for some hours, but then entirely subsided. Healing took place by first intention. As two months have now elapsed since the date of operation and the pain has not returned, it may be hoped that the favorable result will become a permanent one. Sensibility, moreover, is becoming re-established in the part. Dr. Gersung has postponed the publication of the case, because

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Alcoholic Tincture:

Anthrarobin.....10 grams.
Alcohol.....90 "
Dissolve.
Anthrarobin.....20 grams.
Alcohol.....80 "

Dissolve the anthrarobin in the boiling alcohol.

Glycerine Solution:

Anthrarobin.....10 grams.
Glycerine.....80 "
Dissolve by heat.

Aqueous Solution of Anthrarobin and Borax:

Anthrarobin.....10 grams.
Borax.....8 "
Distilled water.....80 "

Anthrarobin.....20 grams.
Borax.....35 "
Glycerine.....
Alcohol aa.....90 "

Behrend has used these formulæ in a large number of cases. He has continued the external use of the drug for weeks without causing pruritus or inflammation of the skin, even when applied to the face and to the eyelids. Immediately after frictions with it there is a certain amount of burning, but this disappears after a few minutes, as a rule, though it may last for an hour.

In regard to its therapeutic action, anthrarobin holds a place between chrysarobin and pyrogallic acid, but it has the advantage over the latter of having no toxic properties. Its action is markedly increased by previous frictions of the skin with black soap, or with spirit of soap. When applied to the skin it causes a brownish color, indicating oxydation, and it is to this phenomenon that its therapeutic action is probably due.

Up to the present time Behrend has used the drug in psoriasis, herpes tonsurans, and erythrasma, and has reason to be well satisfied with the results.—*Therapeutische Monatshefte*, No. 3, 1888.

THE AVINE ORIGIN OF DIPHTHERIA.

It has been known for some years that birds and poultry are subject to a disease which corresponds to what in the human being is known as diphtheria. Several foreign observers have gone a step further, and have endeavored to show that the disease is capable of transmission from animals to human beings. Last year Dr. Turner drew up an interesting report for the local government board bearing on this alleged transmissibility, and he adduced a large number of observations which seemed to indicate a connection between a diphtheritic affection, not only in fowls, but in rabbits and cats, and a similar affection in man. The report comprised several instances in which the "strangles" in horses appeared to give rise to a like train of symptoms. In a thesis by Dr. Menziès, the transmission of the disease from animals to man is attributed to the dejections of the former. Diphtheritic affections among fowls are very common in Italy, and he quotes an instance in which four out of the five children of a medical man were attacked and died. In this case he incriminates the thatched roof, which was inhabited by colonies of fowls, geese, pigeons, etc. The dejections of these animals, washed off by the rain, found their way into the cistern or well from which the supply of drinking water was drawn. The danger had been recognized, and the servants were forbidden to use the water for domestic purposes. As the proper well was at some distance from the house, however, the order had been contravened, and when the epidemic appeared among the poultry, the children promptly succumbed. The remaining child owed his immunity to the fact that he never drank water. The same concatenation of circumstances was observed in several outbreaks elsewhere.

In 1884 an epidemic of diphtheria occurred in Skiatos, an island off the coast of Greece. Dr. Bild was called to a girl of twelve with symptoms of diphtheria, of

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which she died. On the day of her death seven other children in the same quarter of the town were attacked, but there was no reason to suppose that they had contracted it from the first. Subsequently the epidemic spread all over the town; it lasted five months, and caused thirty-six deaths. On inquiry it was ascertained that in the garden of the house at which the disease first manifested itself, a number of turkeys had succumbed to a disease which was characterized by the presence of false membranes of a gray color in the larynx. Moreover, one of the few surviving animals was found to be suffering from paralysis of the legs. The prevailing wind passed directly over the field, and blew the dust into the houses, thus affording every opportunity for the transmission of the virus. There would thus seem to exist *à priori* grounds for believing that diphtheria is mutually exchangeable between man and certain animals. It is therefore incumbent on all medical men, especially those who take an interest in their profession, to inquire into the history of all cases of diphtheria with a view to furnishing evidence bearing on this point. It is essentially a question to be decided by observation, and this only medical men can properly carry out.—*Medical Press and Circular.*

WEIL'S DISEASE.

Within the last two years, another disease, bearing a man's name, has been described and discussed. We have now Bright's, Addison's, Grave's or Basedow's, Raynaud's Friedreich's, Thomsen's, and Menière's diseases, besides Argyll-Robertson's pupils, Colles's fracture, and several surgeons' amputations. There are numerous objections to the practice of employing men's names to distinguish diseases. The taunt of the Psalmist against the heathen calling their lands after their own names does not apply to the present case, as the names in question, surnames of distingushed observers, are invariably attached by others to the diseases which these observers first described without the aid and convenience of nomenclature. Nevertheless, the practice is objectionable; it implies the glorification of men through disease, and, as part of a system of nomenclature, is faulty. Weil's disease is so-called for the usual reason—that is to say, it was first described by a physician of that name. About thirty cases have been noted, including those first detailed by Dr. Weil only two years ago. Dr. Fiedler has since written on the new disorder in the *Deutsch. Archiv*, Vol. XLII, part 4, page 281. His paper has already been ably condensed in the May number of the *American Journal of the Medical Sciences.* Fiedler concludes that the disease, first described by Weil in 1886, is not an abortive form of typhoid fever, as Dr. Weil has suggested. It is a distinct, acute infectious or toxic affection. The disease begins suddenly, without prodromal symptoms, but often with a chill. The constant symptoms are fever, headache, gastric disturbance, jaundice, and muscular pain, especially in the calves. The fever has a typical course, and lasts eight or ten days. Relapses have been observed. The spleen and liver are generally but not always swollen; the liver often becomes tender on pressure. Nephritis is often observed; herpes and erythema occur at times. The prognosis is generally favorable. Weil's disease is generally seen in hot weather, and men in the prime of life are the most subject to it. The cause is quite unknown, but butchers appear most liable to the disease, judging from the scanty statistics already at the disposal of the physicians who have studied Weil's disease.—*Exchange.*

FAITH CURES.

A recent number of our contemporary, the Philadelphia *Medical and Surgical Reporter*, brings prominently under notice the latest craze of the nineteenth century. From the report given it appears that in the States the dependence on the supernatural is quite as marked as in the old

country, and consequently the mischief proportionately large. It appears that a young married woman in Cincinnati was suffering from a carcinoma, and at the request of her husband, a medical man, the tumor was removed. In a comparatively short time the growth reappeared and grew with great rapidity. The poor patient now became importuned to undergo the "Faith Cure," and her husband was strongly denounced for offering opposition. In short, the case came under the pretentious workers of modern miracles, with the result that the disease steadily gained ground, and finally the patient died, and then followed the regrets that she had not called sooner, that she had shown want of "faith" in first trying rational means, and so forth. When we read such cases we almost despair of the progress of our race; we seem once more plunged into the intellectual inertia of the middle ages, and find ourselves still swathed with the cerecloths of superstition in an age of telegraphy. Legislation is powerless for good—nothing can open the eyes of the superstitiously blind, except scientific education. Let the rising generation get a good knowledge of science, and legislation is unnecessary. Superstitions fly from the light of science as owls and bats from the light of day.—*Medical Press and Circular.*

EXTIRPATION OF CONSTRICTED PORTION OF THE LIVER.

Dr. Langenbuch describes, in the *Berliner Klinische Wochenschrift*, No. 3, 1888, the case of a woman, aged 30, who had suffered for eight years from abdominal pain, most marked when she lay down. In the upper part of the abdomen a swelling could be felt. It was hardly perceptible externally, and extended from the ensiform cartilage within two and a quarter inches of the umbilical level. The swelling was smooth, tough, and elastic; its inner border was thick. Percussion impaired, the dullness being continuous with that corresponding to the area of the liver. Echinococcus or, more probably, constriction of liver, caused by clothing, was diagnosed. An exploratory incision was made, and a large mass of liver-substance, cut off by a deep constriction from the left lobe of the liver, was discovered. The mass in this case pressed the pyloric portion of the stomach, the duodenum, pancreas, aorta, with several great nerves and ganglia of the sympathetic against the vertebral column. The mass of liver was amputated, several pedicles being made out of the bands of connective tissue which still united it to the main part of the liver, and carefully ligatured. Hæmorrhage occurred on the evening of the operation; the abdominal cavity was opened up again, clots removed, and a vessel ligatured. The patient recovered for a time. Gradually ascites set in, with œdema. The abdomen was twice tapped, when the patient is said to have recovered completely.—*Exchange.*

THE PARKES MUSEUM OF HYGIENE.

Her Royal Highness, the Duchessof Albany, presented on Saturday last, at the Parkes Museum, certificates to the ladies who had passed an examination following a course of lectures on domestic hygiene given by Dr. Schofield on behalf of the National Health Society. Sir Douglas Galton, who opened the proceedings, spoke of the need which was felt by friends of hygiene and workers in sanitation at this critical point, when further progress of the sanitary education of the nation required earnest and concentrated effort, and expressed a strong belief that, if all the different sanitary and health associations were combined, ample funds for the endownment of a grand national college of hygiene, with affiliations in the chief localities of the empire, would be at once available. * * * * * *

A letter from Miss Florence Nightingale, expressing her deep sympathy with the objects of the Museum, especially with the ceremony that day, was read; it con-

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tained the following passage: "Witho women there can be no domestic hygier The first principles and work of sewerag water-supply, and ventilation must, witho the housewife, almost remain a dead lett But let her be practically interested in h to keep air, earth, and water pure, and admit light in her house, and the heal and life-giving machinery is complete." *British Medical Journal, May* 12.

TREATMENT OF MERCURIAL STOMATITIS.

Dr. E. de Renzi, of Naples, repo that he has treated several cases of me curial stomatitis with corrosive sublima with satisfactory results. He used t drug because he thought that a power antiseptic was indicated in a disea characterized by putrefactive process The sublimate was used as a mouth-was 25 centig. to 1000 grams of water bei used in two days. On the first day t foul smell of the breath was removed, a within three days the redness and swelli of the mouth had diminished very muc The patients were cured on the fifth d as a rule.—*Rivista Clinica e Terapeuti* February, 1888.

MISCELLANY.

A PROTEST AGAINST THE INTR DUCTION OF WATER GAS INTO PHILADELPHIA.

The College of Physicians of Philad phia last week adopted a protest agair the introduction of water gas into Philad phia, based upon a report prepared by special committee.

The committee reported that the vario analyses of water gas, as published, sh that it contains from 30 to 45 p centum, or even more, of carbonic oxi while ordinary coal gas has in it from to 7 per centum of the same co pound. A comparison of the deleterio or poisonous substances yielded to the s

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containing more than 10 per cent. of the deadly vapor was sent to the Legisiature with the signatures of all the leading physicians in the State, including the professors of Harvard College, and the medical examiners and health officers of the various counties and towns.

In conclusion, the committee recommended the adoption of the following, which was indorsed by the College of Physicians:

Whereas, the College of Physicians of Philadelphia has learned that it is proposed to furnish the citizens of Philadelphia with illuminating gas consisting of two parts of coal gas and one part of water gas, a mixture which would probably contain at least about 15 per cent. of carbonic oxide; and

Whereas, in the opinion of this college, the use of any illuminating gas which contains more than 10 per cent. of carbonic oxide would be attended with very grave risk to the health and lives of the citizens of Philadelphia; therefore, be it

Resolved, That the mayor of Philadelphia is hereby petitioned, that if, in his opinion, it be necessary to use water gas in connection with illuminating gas, that great care be taken to render it certain that the mixture shall at no time contain more than 10 per cent. of carbonic oxide.

THE STATE MEDICAL SOCIETY OF ARKANSAS.

OFFICE OF THE SECRETARY,
Little Rock, May 15, 1888.

Editor Chicago Journal and Examiner:

DEAR SIR: In compliance with instructions I transmit herewith the following resolutions adopted at the Thirteenth Annual Session of the State Medical Society of Arkansas, held at Fort Smith, April 25, 26, and 27, 1888, and ordered to be furnished to the American Medical Association, the medical and religious press, and to the State medical societies, soliciting their co-operation in bringing about a correction of these grevious and palpable errors:

Resolved, That the members of the State Medical Society of Arkansas have for years observed with pain and mortification the patronage given to charlatanism in all its multifarious aspects by the religious press of our country.

Resolved, further, and most specifically, That the appearance in religious papers, ostensibly published for the inculcation of truth and morality, of serious homilies on prayer and praise side by side with cures for consumption, cancer, Bright's disease, and other incurable ailments, to which an editorial indorsement is often given, as well as secret preparations under the cloak of remedies for disease, but really intended for purposes of fœticide and other immoral uses, largely tends to shake the confidence of the profession of medicine in the integrity and purpose of the managers and editors of such journals.

Resolved, further, That it has been the well-known custom of the profession to render services gratuitously to clergymen, which we do not regret, nor do we purpose to recall, yet we must assert that the frequent occurrence of indorsements and recomendations of the clergy of peripatetic doctors and advertising charlatans has in many instances been the only reward of our gratuitous services.

Resolved, further, That we are aware that the editors of religious newspapers admit the painful situation in which these advertisements place them, and attempt to excuse themselves by saying that it is necessary to take these advertisements in order to obtain means to conduct their papers; but in the language of orthodox theology we would say: "Put behind you that damnable doctrine that we must do evil that good may come."

Resolved, further, That, as a society, we declare that the continued perpetration of the above offenses by some of the clergy and religious press brings harm to the bodies of their constituency, and damages materially their influence upon the thinking class of the medical profession.

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Resolved, That the Secretary be instructed to furnish copies of these resolutions to the religious and medical press of the United States, to the American Medical Association, and to the State medical societies, soliciting their co-operation in bringing about a correction of these grievous and palpable errors.

Very Respectfully,

L. P. GIBSON, M. D.,
Secretary.

The following act has been passed:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the consent of Congress is hereby given to the city of Chicago, county of Cook, State of Illinois, to extend a tunnel, or inlet pipes, into Lake Michigan, so far as may be deemed necessary to insure a supply of pure water, and to erect a pier, or piers, and crib in the navigable waters of said Lake, for the making, preserving, and working of said aqueducts or pipes or tunnel, the plan and location thereof to be subject to the approval of the Secretary of War: *Provided*, That said said city shall furnish and maintain at its own expense, such beacon-lights or other signals on such piers or crib, as the Light-House Board shall prescribe.

Approved, May 9, 1888.

It is announced that THE COOK COUNTY DIRECTORY OF PHYSICIANS AND SURGEONS, which is to be published under the supervision and control of the Physicians' Collection Association, is nearly ready for press, and that it will be delivered during the month of July. The association has undertaken to present to the profession a work of merit and of value. It is stated that the book will be entirely reliable in its directory pages, besides possessing much additional information valuable for reference.

NINTH INTERNATIONAL MEDICAL CONGRESS.—The first two volumes of the Report of the Transactions of the Congress held in Washington in September, 1887, have already been issued. The remaining three volumes will be distributed during the summer. The volumes issued give full reports of the work of the first three sections of the Congress viz.: General Medicine, General Surgery, and Military and Naval Surgery and Medicine.

They are issued in good form and reflect credit on the publication committee.

THE RUSH MONUMENT FUND.—The American Medical Association is continuing its efforts, through its committee appointed for that purpose, to secure funds sufficient to erect a monument to the memory of Dr. Benjamin Rush, of whom a portrait appeared in the May number of this journal.

Medical-Director A. L. Gihon, of the United States Navy, is chairman of the committee and Professor George H. Rohe, of Baltimore, Maryland, is secretary.

In accordance with a resolution adopted by the Faculty of Medicine of the University of Pennsylvania, the first number of a medical monthly will be issued October 1, 1888, under the title "The University Medical Magazine. Edited under the auspices of the Alumni and Faculty of Medicine of The University of Pennsylvania."

BOARDS OF HEALTH IN OHIO.—By a new law in Ohio a board of health is to be established in every city or village containing more than 500 inhabitants.

Cincinnati has a crematory constructed with all modern improvements.

BOOK REVIEWS AND BOOK NOTICES.

THE THROAT AND ITS DISEASES, INCLUDING Associated Affections of the Nose and Ear.

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With 120 illustrations in color and 200 engravings, designed and executed by the author, LENNOX BROWNE, F. R. C. S. E., Senior Surgeon to the Central London Throat and Ear Hospital, Surgeon and Aural Surgeon to the Royal Society of Musicians, Consulting Surgeon to the Newcastle Throat and Ear Hospital, etc. Second edition, rewritten and enlarged. Pp. xviii, 614. Philadelphia: Lea Brothers & Co. Chicago: A. C. McClurg & Company. 1887.

The first edition of Mr. Lennox Browne's work on "The Throat and its Diseases," which appeared in 1879, was limited in design to the consideration of diagnosis and treatment. This strictly clinical aspect of the case was, however, presented in a style so precise and forcible that a desire was at once excited for an equally lucid and authoritative treatment of associated pathological states and questions. The book is now before us in its second edition, rewritten, enlarged, and with the pathological deficiency abundantly provided for. The author has for twenty years enjoyed exceptional clinical advantages, and as a laryngologist ranks a peer among his fellows of the English metropolis. Truly literate, possessed of broad ideas, a sound judgment, a high regard for the practical, and withal an artist of considerable ability, he has succeeded in infusing an individuality into his book which makes the work truly his own.

The first eight chapters are devoted to the special anatomy and physiology of the larynx, pharynx, and nose, and to general diagnosis, semiology, and therapeutics, including consideration of electrical and lime-light illumination, photo-laryngoscopy, etc. Dissatisfaction is expressed with all forms of electrical illuminating apparatus yet devised, preference being accorded to the oxyhydrogen lime-light when extra illumination is necessary. Prominence is given to Leiter's leaden coil as a temperature regulator. It is readily adapted to the form of the neck, and serves as an elegant substitute for the poultice, and especially the troublesome ice-bag, as a means of subduing acute inflammation of the tonsils, pharynx, or larynx.

It is to be regretted that in the consideration of chronic pharyngitis, the various forms of this disease had not been more carefully differentiated. Doubtless the hypertrophic, the atrophic, and the simple chronic pharyngitis are pathologically stages of the same imflammation, yet clinically, and especially from a therapeutic point of view, they are so distinct that word-pictures of each were desirable.

Varix of the base of the tongue, associated with lymphoid hypertrophies at the same point, the author thinks accountable for many pharyngeal paræsthesiæ which are often erroneously attributed to hysteria.

So much nonsense has been informally promulgated concerning the operation of tonsilotomy that we quote the following passage from this authority: "Chronic enlargment of the tonsils is only to be treated satisfactorily by the one method of excision, and there does not appear any valid reason why there should be two opinions on the subject." It is assumed, of course, that the operation be skillfully performed. The chapters on "Cancer of the Tonsil" and on "Lupus of the Mouth, Pharynx, and Larynx," are unique and deserving of careful study.

Mr. Browne enters a powerful plea in favor of the non-identity of croup and diphtheria. Attention is drawn to the fact that false membranes of the same macroscopic and microscopic character as those of diphtheritic origin can be produced on the mucous lining of the air-passages by every kind of traumatism. A lady, by accident, received some eau de Cologne into her trachea by her nostril. Membrane was profusely developed on the third day, and on the fifth day a perfect "cast" of the larynx and trachea was expelled entire. This is—

(1.) Traumatic exudative laryngitis or traumatic croup.

(2.) Simple exudative laryngitis or *true croup* is a local inflammation in which an exudation develops varying in extent and consistence according to the intensity of the factor, which is principally atmospheric, *e. g.*, exposure to keen northeasterly winds, together with a constitutional state not accurately determined, which appears to predispose certain families and certain members of a family to this form of inflammation. This is the analogue in children to œdematous laryngitis in adults, and it bears the same relation to diphtheria as enteritis to enteric fever. The term "exudative" is preferred to "membranous" because the exudate in milder cases may be only mucus or pultaceous.

(3.) Secondary exudative laryngitis is an inflammation which occurs as a result of some of the exanthemata, as typhus and typhoid. "All of these three classes of membranous inflammation are mainly distinguished by the conspicous absence of certain grave constitutional symptoms ands equelæ, from—

(4.) Diphtheritic exudative laryngitis or true diphtheria.

Whilst laryngeal phthisis is conceded to be generally *secondary* to pulmonary tuberculosis, the possible occurence of *primary* tuberculous laryngitis is considered established and competent evidence in support of this position is cited at length.

Syphilitic laryngitis, benign and malignant neoplasms, and neuroses of the larynx all receive detailed consideration. Chapters XXIV and XXV are devoted to nasal and naso-pharyngeal affections, and Chapter XXVI to "Aural Maladies Associated

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with Naso-pharyngeal Disease." The lim
space has necessitated the generalization
morbid conditions under a classification
moderate extent. Nothing short of an
volume could do justice to the subject.

The work is completed by a chapter o
for remedies, and fifteen plates compri
beautifully colored figures drawn from
the stone by Lennox Browne himself. To
represent nature in color seems impossibl
without an indefinite multiplication of sto
lithographing process, but the drawing o
accurate and the coloring is artistic a
suggestive. It was the intention of the
have them so arranged in binding that e
could be opened out to lie beside the book
during perusal of the text; thus avo
annoyance of constantly turning the lea
instead, the American publishers have
plates as ordinary leaves at the end of the
subjecting the readers to an inconvenie
detracts much from the profit and pl
reference. Otherwise the work of the
has been well done.

It is a book which will be read with gr
the author by every specialist on the subjec
which meets the requirements of practiti
students. W. E. CASSEI

THE PRINCIPLES AND PRACTICE OF M
By the late CHARLES HILTON FAGG
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diseases, by P. H. Pye-Smith, M.
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P. Blakiston Son & Co. Chicag
Keener.

This work embraces the whole subject o
medicine including skin diseases.

The first impression on reading the boc
scholarship of the author; to this is soon
of his fairness. He appears to have no hc
studies every subject for its facts whereve
lead. This is shown specially in the acec
later advances in pathology given in th
pages of the book. No better summ
existing state of pathological knowledge i
compass exists, certainly of the state of
at the date at which it was written. Bu
is something more than a judicious sumn
ideas of others. Keen and original ol
appear on every page. The chapter or
for instance, is full of suggestions to ar
reader, who usually has so little experienc
that its slighter manifestations are liabl
his observation.

But in this country, at least, it would
of advantage if he had included in th

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As to the style, one who was hypercritical might say it was too diffuse and sometimes monotonous; good for a lecture, where it is enlivened and emphasised by the voice and presence of the speaker, but for reading, somewhat in need of pruning.

It is entirely without illustrations. Their use would have saved both reader and writer much trouble.

The book is not an elementary one or of uniform excellence, but taken as a whole it is the best contribution which has appeared in English for some time. LESTER CURTIS.

THE REFRACTION OF THE EYE. A MANUAL FOR Students. By GUSTAVUS HARTRIDGE, F. R. C. S. With ninety-six illustrations. Third edition. Philadelphia: P. Blakiston Son & Co. Chicago: W. T. Keener.

This is a book of 240 pages, which, as its title indicates, treats of the refraction of the eye, with the kindred subjects, asthenopia and strabismus. Thirty-four pages are devoted to retinoscopy, which is well presented; and considerable space is devoted to strabismus and the forms of asthenopia. In general, the subject-matter discussed is clearly stated, but considering that it is the third edition and that "the whole has been carefully revised, some chapters partly rewritten," such indefinite phrases as the following ought to have been improved: "When the eyes are completely at rest, the optic axes are either parallel or, more usually, slightly divergent. The angle thus formed between the visual and the optic axis is called the anglea, and varies according to the refraction of the eye," p. 39. Again, p. 41, "The nearer an object, the more we have to converge and so also with the accommodation."

The subject of retinoscopy is very fully presented. The type is clear, and the book is well illustrated.

OPHTHALMIC SURGERY. By ROBERT BRUDENELL CARTER, F. R. C. S., and WILLIAM ADAMS FROST, F. R. C. S. Illustrated. Philadelphia: Lea Bros. & Co. Chicago: A. C. McClurg & Co.

This is one of a series of clinical manuals for practitioners and students of medicine. In consists 554 pages of closely printed matter, and embraces the whole subject of ophthalmic practice, including the subject of lenses and the color-tests.

The print is not very clear, and the binding and general appearance of the book is scarcely up to the customary standing of books emanating from that well-known publishing house.

INTUBATION OF THE LARYNX. By F. E. WAXHAM, M. D. Pp. xii and 110. Chicago: Charles Truax. 1888.

This book contains a short account of the history of the operation, a clear description of the instruments as first used and as now modified, and their use. A chapter on the anatomy of the larynx; an enumeration of the author's cases, and Dr. O'Dwyer's 100 cases. It is well written, the illustrations are fair, many of them excellent, and it is well printed on heavy glazed paper.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN, for the use of Students and Practioners of Medicine. Second edition, thoroughly revised and enlarged. Pp. xix and 676. By JAMES NEVINS HYDE, A. M., M. D. Philadelphia: Lea Brothers & Co. 1888. Chicago: A. C. McClurg & Co.

The profession, as well as the author, is to be congratulated upon the demand for a second edition of this excellent treatise. The opportunity which this has afforded for a thorough revision has been embraced, and this edition may be relied upon as accurately representing the present state of knowledge upon the subject of which it treats. To those who are familiar with the first edition, or who are acquainted with its author, more need not be said. But as there may be some who have neither privilege, to them it may be said that the book is, as its title claims, eminently a practical treatise. Its style is clear, its descriptions easily understood, and its arrangement systematic. It is concise and complete. If a student or practitioner can have only one book upon this subject, he can not do better than to have this one. E. W.

THE LAWS OF HEREDITY. By GEORGE WILLIAMSON, M. D. Pp. 383. 12mo. Chicago: H. W. Palmer, Lock Box 532. 1887.

The author seems to have been fully conscious of the importance of his subject, in its bearing upon the future of the human race. The views which he entertains are radical in the extreme, and are very clearly explained. He maintains that at the moment of its birth, a child possesses the germ, at least, of every trait, physical and mental, which it will or ever can possess, and that subsequent training can not materially modify them. He also thinks that a mother can control and modify these traits at will during her pregnancy. That is, that every child at birth is an exact reproduction of every pronounced and protracted mental condition of its mother during its intra-uterine life. It is upon this theory that he accounts for the very striking differences sometimes observed between children of the same parents. It is frankly admitted that this theory places a burden of truly awful and overwhelming responsibility upon the mothers of the race, but he says that there is no escape from it. He claims that the male parent exerts no influence whatever upon the child except through the imagination of the mother.

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The discussion is carried very fully into a consid ration of the personal and social questions which t theory involves.

It ought to have an index. But this can corrected in a second edition, which it is to hoped will be called for; since it is capable of great deal of good. It can hardly fail to increa the well-being and happiness of any growing fam in which it receives the attention which it meri

E. W.

A MANUAL OF THE MINOR GYNÆCOLOGIC OPERATIONS. By J. HALLIDAY CROOM, M. First American, from the second Edinbu edition. By Lewis S. McMurtry, A. M., M. Pp. xii and 228. 12mo. Philadelphia: Recor McMullin & Co., Limited. 1888.

The American editor says that the book intended to furnish the "student and practitio a brief, simple, and practical account of the m common gynæcological operations."

It is all of this, and it is further proper to s that the additions to the text made in the Americ edition enhance the value of the book, which upon the whole, an excellent manual in its pro field.

BOOKS RECEIVED.

Essentials of Chemistry, etc. By. R. A. W haus, A. M., M. D.

The Year Book of Treatment for 1887.

A Compend of Human Physiology. By A. Brubaker, A. M., M. D.

A Manual of Diseases of the Nervous Syste By W. R. Gowers, M. D., F. R. C. P.

The Surgical Diseases of the Genito-Urin Organs. By E. L. Keyes, A. M., M. D.

Essays on Hysteria, Brain-Tumor, and So other Causes of Nervous Disease. By Mary P nam Jocobi, M. D.

Morrow's Atlas of Venereal and Skin Diseas Fasciculi, 1, 2, 3.

Accidents and Emergencies. By Charles Dulles, M. D.

Ophthalmic Surgery. By R. B. Carter, F. C. S., and W. A. Frost, F. R. C. S.

Lesions of the Vagina and Pelvic Floor. By E. Hadra, M. D.

A Treatise on Dislocations. By Lewis A. Sti son, B. A., M. D.

A Practical Treatise on Diseases of the Skin. James Nevins Hyde, A. M., M. D.

The Laws of Heredity. By George Williams M. D.

Dermatitis Venenata, an Account of Exter [illegible]tants upon the Skin. By James C. White, M.

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ANNOUNCEMENTS.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

PRELIMINARY ANNOUNCEMENT OF THE COMMITTEE OF ARRANGEMENTS.

This association will hold its first triennial session in the city of Washington, during the 18th, 19th, and 20th of September next. The meetings of the Congress will be held in the evenings, beginning at 8 p. m., and those of the societies composing the Congress will be held during the daytime, according to the programme each may respectively provide. The sessions will be open to the profession.

The Local Committee of Arrangements of the Congress has secured places of meeting for the Congress and each society in close proximity, so that the members of the respective societies can interchange attendance at pleasure without inconvenience.

It is the purpose of the Executive Committee of the Congress to print the programmes of all of the societies, provided copies be supplied on or before Angust 15.

The Local Committee requests the secretaries of the societies to forward the names of those of their invited guests who have accepted their invitations, designating them as foreign and American.

The Committee of Arrangements is composed of one member of each society represented in the Congress, as follows:

Samuel C. Busey, Association of American Physicians, Washington.

J. Ford Thompson, American Surgical Association, Washington.

R. T. Edes, American Neurological Association, Washington.

E. C. Morgan, American Laryngological Association, Washington.

W. W. Johnston, American Climatological Association, Washington.

I. E. Atkinson, American Dermatological Association, Baltimore.

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H. Newell Martin, American Physiological Society, Baltimore.

Samuel Theobald, American Ophthalmological Society, Baltimore.

S. O. Richey, American Otological Society, Washington.

A. T. Cabot, American Association of Genito-Urinary Surgery, Boston.

Inquiries may be addressed to the Chairman, Dr. Busey, at Washington, or to the representative member of each society on the committee.

The Committee of Arrangements of the American Gynæcological Society, which will hold its next annual meeting in Washington at the same time, is composed of Drs. S. C. Busey, J. Taber Johnson, and A. F. A. King.

MEDICAL CONGRESS IN SPAIN. — The *Independencia Medica* states that a Medical Congress will be held at Barcelona from the 9th to the 15th of September, in connection with the Universal Exhibition which is shortly to be opened there. Among the subjects for discussion are the following: Measures to be taken by the state for the prevention and cure of blindness, and for the improvement of the condition of the blind in Spain; present state of leprosy in Spain, and how to prevent it from spreading; indications for surgical interference in intestinal obstruction; identity or difference of scrofula and tubercle; localization of lesions in diseases of nervous centres; application of hypnotism and "suggestion" to the treatment of nervous affections; micro-organisms in mineral waters, their influence on the chemical constitution, and therapeutic effects thereof; laparotomy as an exploratory measure in penetrating wounds of the abdomen (more especially gunshot wounds); antiseptic midwifery; etiology and prophylaxis of cholera and yellow fever. A Pharmaceutical Congress will meet at the same time.

An International Exposition of Hygiene and Life Saving and Preserving Apparatus will be opened in Ostend, Belgium, on June 3.

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The NATIONAL DRUGGIST says: American medical, pharmaceutical, and trade journals, usually keen to detect a hidden advertisement in communications recommending drugs and preparations when the same emanate from home sources, throw caution and ordinary business sense to the winds when it comes to recommending and puffing the very same class of merchandise bearing a foreign name and recommended by foreign authority. The success of one or two German chemicals, the products of synthesis, opened the doors for a flood of antiseptins, antifebrins, antipyrins, and other "antis" ending in "ol" or "in." They come to us covered all over with patents—patents covering the names, the process of manufacture, the ingredients (save those which are kept absolutely secret), the modes of dispensing, the package, the label—in short everything that a patent can be made to cover. In a word, they are patent medicines in the very widest and strictest sense of the term; and yet they are received with enthusiastic welcome by press and practitioner, and are given gratis and gladly, advertisments that money could not purchase for a home product, even though ten times more valuable and not one-tenth so much patented.

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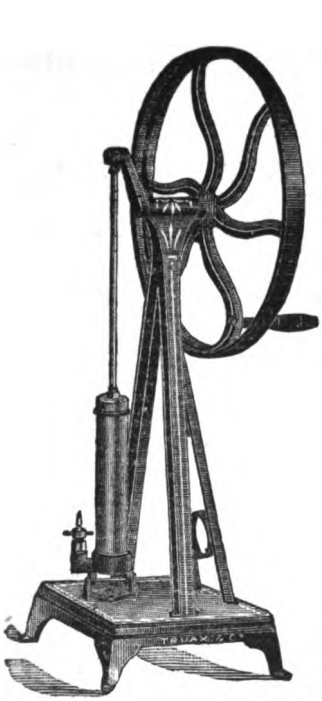

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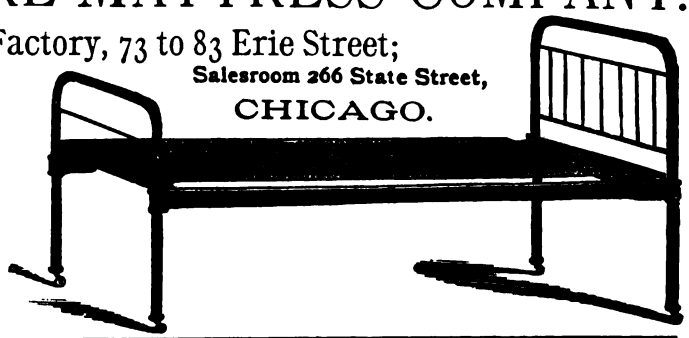

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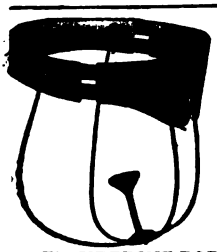

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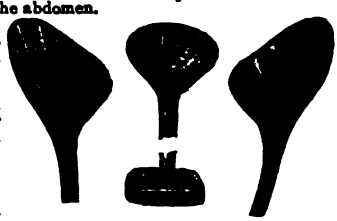

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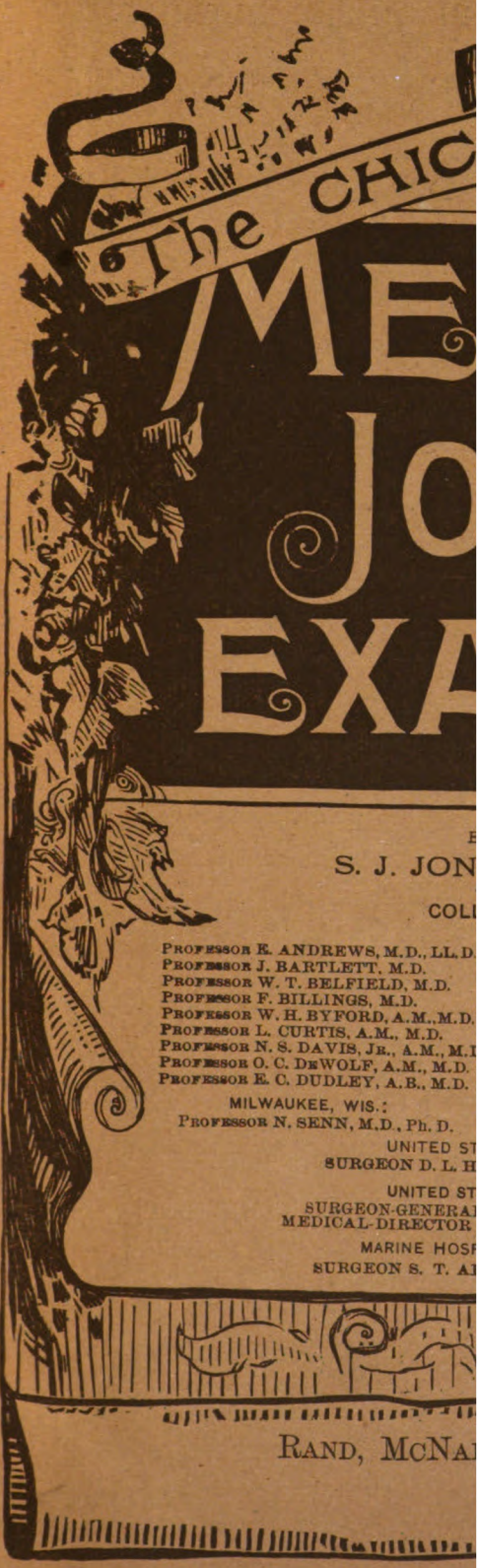

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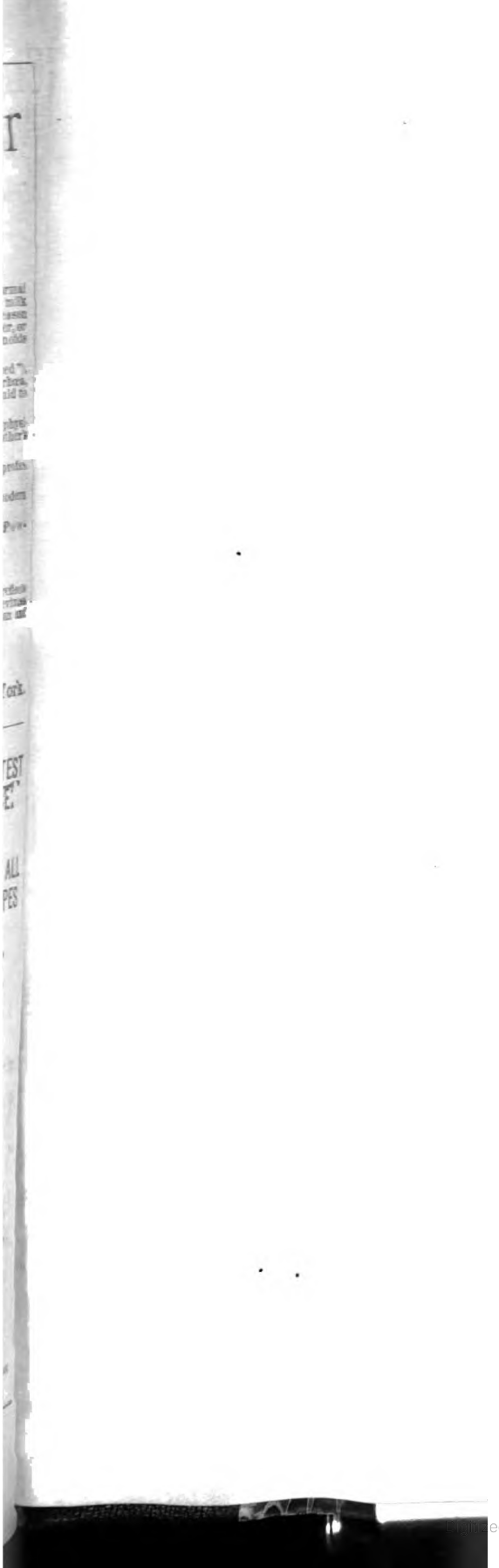
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